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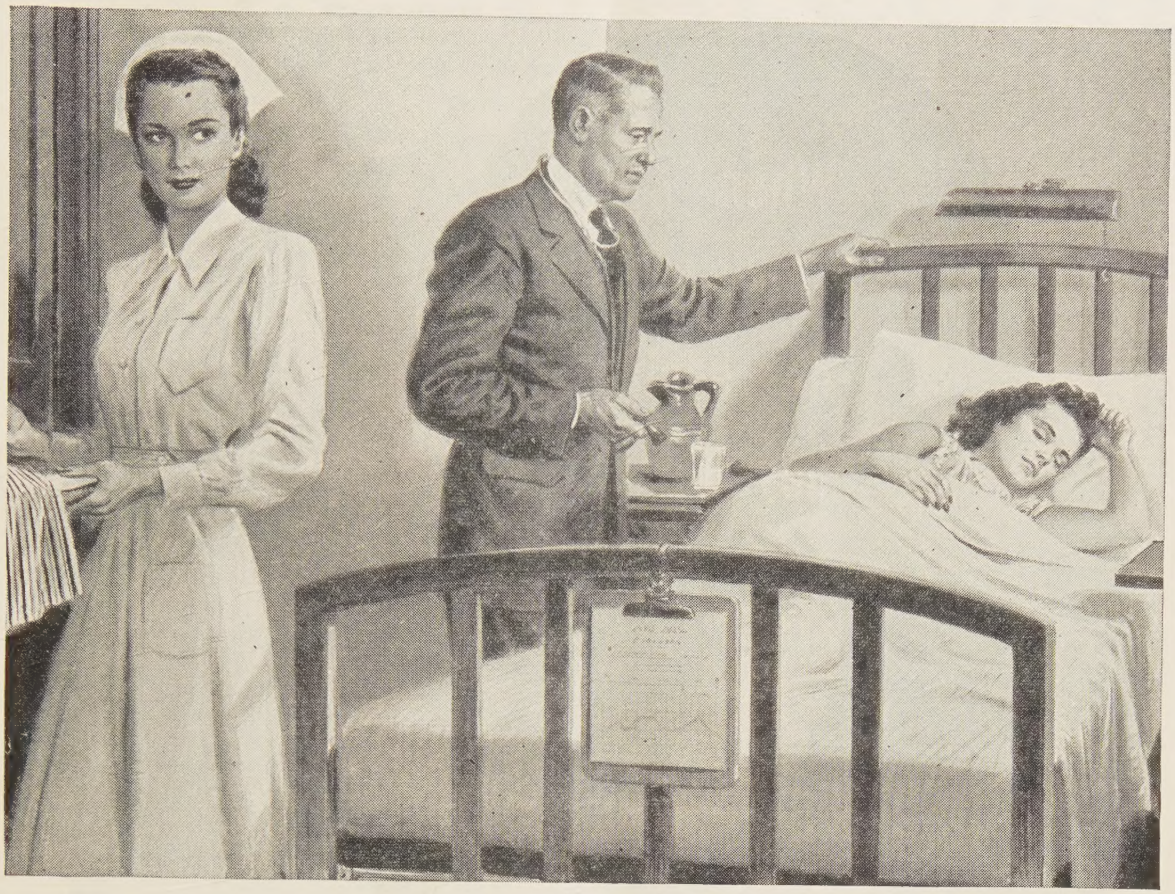

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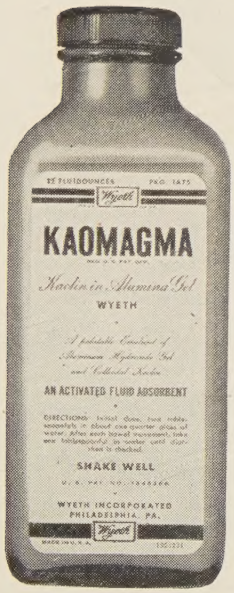

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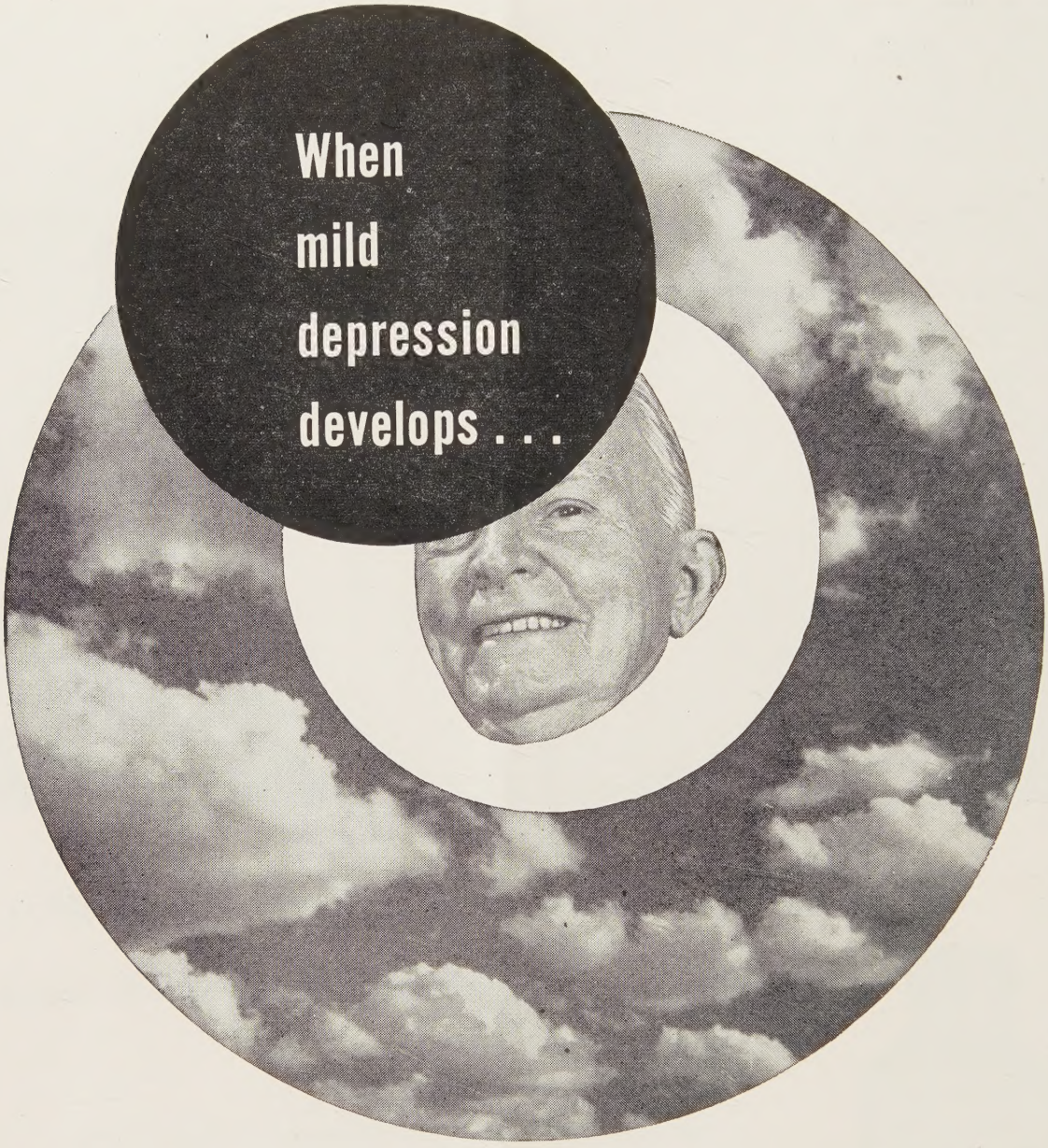

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Research Award of the American Pharmaceutical Manufacturers' Association

Dr. Bernardo Alberto Houssay, Buenos Aires, Argentina, renowned as the world's greatest living physiologist, was the recipient of the first annual Research Award of the American Pharmaceutical Manufacturers' Association. Dr. Houssay came to this country at the APMA's invitation to receive the award in person. The presentation was made at the opening session of the 40th Annual Meeting of the APMA which was held at the Boca Raton Club, Boca Raton, Florida.

Dr. Houssay, who until recently was professor of physiology at the Medical School of the University of Buenos Aires, a post which he first assumed in 1919, is an authority on the inter-relationships of the various hormones. He is particularly noted for furthering medical knowledge of the pituitary gland, the "master" gland of the body. It was through Dr. Houssay's work that the relation of the pituitary gland to diabetes was firmly established.

Dr. Houssay was nominated to receive the Research Award by an Advisory Committee of distinguished American scientists who were drawn from the various fields of medical science to assist the APMA in making the selection.

This new award, which will henceforth be presented every year at the Association's annual meeting, is in addition to APMA's Scientific Award which is presented annually at the winter mid-year meeting.

The basis of the Research Award as well as its time of presentation differs from that of the Scientific Award. The new award was established to recognize the work of an individual research investigator who during the recent past made an outstanding and significant research contribution in the field of medicine or the medical sciences. The Scientific Award, on the other hand, recognizes a fundamental contribution to public health through continuing research in the medical sciences and usually goes to a research group or institution. Last year it was presented to the Mayo Foundation.

Any scientist in any part of the world in any position is eligible for consideration. The recipient of the Research Award may be a research worker who is outstanding in the field of medicine, chemistry, physics, bacteriology, physiology, pharmacology, pharmacy, anatomy, pathology or any one of the other clinical sciences or specialties in the field of medical sciences.

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Prevention or Control of Hemorrhages Caused by Acute Exposure to Ionizing Irradiation

Means of preventing or controlling hemorrhage caused by acute exposure to ionizing irradiation, such as accompanied the atomic bombing of Hiroshima and Nagasaki, was reported recently by Dr. J. Garrott Allen of the University Clinics of the University of Chicago.

In the first advance of investigators against the irradiation diseases which will rank foremost among new medical problems in the atomic age, Dr. Allen found that a commercial dye, toluidine blue, acts as a clotting agent to stop extensive hemorrhage, which causes death if uncontrolled. Protamine, extracted from fish eggs, also has the same properties of the dye.

The study, announced in *Science* by Dr. Allen, assistant professor of surgery, and Dr. Leon O. Jacobson, associate dean of the division of biological sciences, was first reported October 12, 1945, through the health division of the Metallurgical Laboratory—the Manhattan District atomic bomb project of the university. It has only now been released from security.

The original work demonstrated that ionizing radiation—neutrons, alpha particles, beta rays, and x rays—produced in the blood an anti-coagulant, heparin, which in effect "thinned" the blood so that it would pass through capillary tissue. The reduction in blood platelets, which is also produced by radiation, and which was originally thought to be the cause of hemorrhaging, was found to be only a secondary factor.

When the dye is injected into the veins, the hemorrhaging in dogs is stopped in as short a period as twenty minutes, and the effect continues for as long as seventy-two hours. Subsequent injections may be used to again reduce hemorrhaging. The hemorrhaging can be stopped even when the number of blood platelets is as low as 50,000 instead of the normal 300,000 to 500,000.

Too much of the dye, it was found, in the animal experiments, produces an anti-coagulant effect; that is, it increases the hemorrhaging.

The work was carried on by Dr. Allen for a period of three years. Dogs were found to be most like humans in the hemorrhaging effect produced by the radiation. Dosage of the dye required to achieve the maximum effect in stopping hemorrhage, and avoiding the anti-coagulant effect, was determined by experiments on dogs.

If animals exposed to an otherwise fatal amount of radiation can be carried past the fourth week of hemorrhaging, normal life may possibly be resumed, Dr. Allen's experiments indicate.

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Open Forum

MODERN MENTAL HYGIENE*

E. ARTHUR WHITNEY, M.D.
Elwyn, Pa.

Most people think of the term "mental hygiene" as a 20th Century creation beginning with Clifford Beer's book *A Mind That Found Itself*. However history shows that Dr. William Sweetser of the University of Vermont published a book entitled *Mental Hygiene* in 1843. This book had as a subtitle: "An Examination of the Intellect and Passions, Designed to Illustrate their Influence on Health and Duration of Life". In his preface Sweetser went on to say: "Few, we believe, have formed any adequate estimate of the sum of bodily ills which have their source in the mind. Those of the medical profession, even, concentrating their attention upon the physical, are to prone to neglect the mental causes of disease; and thus may patients be subjected to the harshest medicines of the pharmacopeia, the true origin of whose malady is some inward and rooted sorrow, which a moral balm alone can reach".

Sweetser's work was the first to bear the title *Mental Hygiene,* but his thesis was not the first of its kind to appear in the United States. Dr. Amariah Brigham of Connecticut published a little book in 1832 entitled *Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health,* which went through several editions in this country and in the British Isles.

Earlier still, there was an essay on mental health by Dr. H. Rose printed in Philadelphia in 1794. However the growth of interest in mental hygiene probably dates from 1844, during which year Dr. Benjamin Rush of Philadelphia was responsible for the founding of the organization now known as the American Psychiatric Association. During the past century much has been accomplished and much remains to be done.

You might now be wondering what place a paper on mental hygiene has at a meeting devoted to the physical ills caused by tuberculosis. Perhaps if we investigate more closely we will find that the two are not too far apart. In February of 1946, Dr. Maurice Hyvert of Paris, France reported in a French medical journal on the treatment of sixty-three cases of miscellaneous psychoses by tuberculin. It is his belief that a large proportion of different psychotic states can be related to an atypical tuberculosis. The patients were all women between the ages of eighteen and fifty. His findings showed that sixteen recovered from their psychosis, twenty-six were markedly improved and eighteen were unchanged. The author feels that the dangers of such treatment are remote, although four patients died of tuberculosis and five developed a fanlike hilar involvement which disappeared after a few weeks of treatment leaving no trace. He states that actually, deaths and pulmonary developments were much more prevalent during the same period in untreated patients than in this group under special treatment.

Psychiatry is a specialty of medicine that has had many vicissitudes in the past century. Following World War I, there was a flood of popular interest in mental hygiene which reached the point of a rather general assumption that psychiatry could now solve all human problems. When, as was to be expected, psychiatry failed to measure up to this impossible situation, much antagonism arose and the pendulum swung to the point where many claimed that psychiatry had nothing to offer. Now, since psychiatry has shown throughout World War II that it can and does do much in the alleviation of mental disorders, the pendulum has again swung in favor of psychiatry.

What does psychiatry believe and practice in 1946? I think we can start by saying that the basic belief is that the mind of man is a complex organism that can be subjected to study and that much can be learned about his behavior by such studies. Man must be recognized as a social being living in relationship to his fellowman and in a society which has a good deal to do with his attitudes and behavior. Psychiatrists are concerned with man both as an individual and also as a member of society. They are especially concerned with the mental well-being of the individual and also the essential requirements for a healthy society composed of mentally healthy individuals. Psychiatrys' principle problem is mans' ability to live in harmony with his fellowman.

One of the fundamental concepts of modern psychiatry is what might be termed "the science of human behavior". If we can understand the causes of good and bad adjustments; determine the causes of mental disease, mental defect and social maladjustments then we are prepared to apply modern therapy towards their treatment and where possible to prevent their occurrence. Good mental health depends on many variables such as heredity, diet, environment, friends and enemies. It is subject to the physical climate, the emotional stresses, the physical well-being and economic conditions.

We know that the structure of a persons' personality is laid down during the first few years of life. Hence child training and rearing, plays a most important role in the prevention of mental disorders. Our basic purpose in child training should be to help him to develop normally and to prepare him to deal with life at what is called an adult level. A healthy normal child, full of interest, energy and curiosity is of less concern from the standpoint of mental health than the child who is too submissive, indolent, and who never causes trouble.

There is much loose talk in these days of "security". There is no such thing as complete "security" in this world. In his early developmental years it is important to give the child a feeling of security but as he grows older he must be taught not the mistaken notion that he is secure, but how to live in an insecure world. Efforts should be directed toward developing personality traits capable of dealing with all situations and able to bear stress and strain. Unfortunately today, we see a growing concept that government is responsible for everything and that

*Read at the annual Delaware County (Pa.) Health and Welfare meeting at the Chester, Pa., Y. M. C. A., October 31, 1946.

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we have no responsibility either for our own condition or for that of our fellowman.

Psychiatry has much to offer the individual and the world at this time. It can point out that much of the present international suspicion and sensitivity is comparable to that among individuals. The building up of individual mental health is one of the best ways to build national health and world health.

Recently, we have seen articles in newspapers and magazines attacking the state institutions. Like most such attacks there does exist a basis for the claims of the unsatisfactory conditions. However, it is not the institutions nor their superintendents that are to blame. It is we, the people, who have been not only indifferent but callous in our attitude towards our state mental hospitals. The Legislatures of the several states must also share the responsibility. Legislatures will appropriate three to five dollars or more per day for the care of the physically ill in general hospitals, but only one dollar more or less, often less, for the daily care of the mentally ill.

It behooves us to analyze these statements critically. First it is claimed that many of the mentally ill are inadequately housed. For decades, psychiatrists have been preaching this and also pointing out the harmful effects of the overcrowding, but their cries fell on the ears of an indifferent public and legislatures paid more attention to improvement of roads than to improvement of conditions in mental hospitals.

Secondly, it is stated that the mental hospitals are understaffed. This is only too true and this again is a fact that psychiatrists have been pointing out for years to little avail. Every state hospital needs more physicians, more nurses, more attendants and more personnel in all fields of service for the patients.

Thirdly, it is pointed out that state hospital salary scales are inadequate, the hours of work too long and housing of employees unsatisfactory. To psychiatrists this is nothing new. Appeals to legislatures for increased appropriations to permit superintendants to employ more and better help have had but little effect. It is a well known fact, for example, that guards in state prisons receive much higher salaries than mental hospital attendants.

Lastly, these articles tell of abuse to patients. This is unfortunately true in many institutions. However, such abuses have crept in during the war years, when all mental hospitals were working under enormous hardships of terrific shortages of attendants, nurses and physicians. In an adequately manned institution it is doubtful if such conditions will exist.

The answers to these statements rest solely with the people and the legislatures of the several states. Would that Pennsylvania could lead the way with really adequate appropriations in the next session of legislature to improve not only living conditions for the mentally ill, but also sufficient personnel for their adequate medical and nursing care. We have had an apathetic public and perhaps these articles will have served one purpose of mental hygiene value if the legislatures can be aroused to the situation and allocate the necessary funds to meet it.

If there were some way of cutting down to the necessary-minimum, national, state, city and county bureaucracies, the money secured, could work miracles if applied to the basic needs of mental hospitals. Yet we quietly let this waste of money go on as the bureaucracies become more and more intrenched in our system of federal, state and local government.

Dr. Carl M. Bowman in his recent address at Chicago, as president of The American Psychiatric Association, outlined the most urgent requirements for the adequate practice of mental hygiene. These are briefly:

1. Minimum standard of the teaching of psychiatry in medical schools.
2. A set of standards for state hospitals, outpatient psychiatric clinics and child guidance clinics.
3. A standard for the classification of mental disease.
4. A standard ideal committment law.

The first three are now largely in effect, but in the fourth there exists many inadequacies. In the justifiable attempt to establish safeguards and prevent improper committments, many existing laws fail to accomplish their real purpose, namely to secure for the mentally sick person, proper care and treatment and to make certain that persons who are not mentally ill are not improperly committed.

Dr. Bowman states the medical rights of the mentally sick person should be that he first have an immediate examination by a competent psychiatrist, with prompt admission to a psychiatric ward or hospital where he can receive appropriate treatment. There should be a minimum of legal procedure. The greatest need at present is the development of psychiatric wards in general hospitals, for the early study and treatment of all types of psychoses. The Harrisburg General Hospital has initiated this work in Pennsylvania by its newly planned wing for psychiatric patients.

Now let us consider some of the methods of treatment in psychiatry that have aided so much in the rehabilitation of the mentally ill. Early in this century, hydrotherapy was widely used in treating different types of mental disorders. It is today one of the basic forms of therapy and is a part of the required equipment of any psychiatric ward or hospital.

Beginning about the time of World War I, occupational therapy received a great deal of attention in the treatment and possible rehabilitation of the mentally ill. The value of this type of treatment can hardly be underestimated. It alone has been the salvation of many minor cases of mental disorder and invaluable in practically all types of psychoses.

Psychotherapy and psychoanalysis have had their ardent advocates since the early work of Freud. The chief emphasis of this type of treatment has been its use in cases of psychoneuroses, although it is applied to a limited degree in the treatment of dementia praecox, paranoid states and some other types of psychoses.

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More recently, socalled "shock therapy" either by drug or by electrical current has come into vogue. This newer form of treatment has in many cases performed seeming miracles but it is not a panacea for mental ills. It has been found to have certain distinct limitations and should only be applied in those types of mental illnesses where experience has proven it to be of value.

A rather promising development among the newer angles of approach to the treatment of mental disease has been in the use of endocrine therapy. The best results have been obtained in involutional psychoses, where the gynecologists and psychiatrists have cooperated in the treatment of menopausal syndromes. However, endocrine products should not be used indiscriminately. There is a tendancy towards improper use of these medications and at times the results are anything but satisfactory for the patients.

Still another in the ever increasing newer types of treatment has been the use of fever therapy in general paresis of the insane. Beginning with the use of malarial therapy and later the use of socalled electropyrexia, this form of treatment either alone or in combination with types of chemotherapy, has rehabilitated thousands who might otherwise have been doomed to spend the rest of their days in institutions. Perhaps penicillins' early use in syphilis will materially reduce the incidence of general paresis in the future. However, fever therapy is indeed a boon to these unfortunate individuals. Other types which are of value are:

1. Dietary procedures, particularly the scientific use of vitamins. Here again a word of caution needs to be said. Emphasis should be placed on the scientific use of vitamins.

2. Drug therapy of ever increasing variety. Those warranting special mention are the barbiturates, the Arserical drugs, and the newer antibiotics. Recent strides in newer drugs has had and we anticipate, will have benificial results in the mentally ill.

3. Treatment of the socalled psychosomatic conditions such as hypertension, skin diseases, allergies and gastrointestinal disturbances. Such conditions are at times, the underlying focus of the mental condition. Their study and treatment by the internist and psychiatrist frequently works wonders.

In general it may be said that psychiatrists now prefer what might be called the multidemensional attack on psychoses—not just drugs, shock therapy, occupational therapy or psychotherapy but the use of any and all of these when the indications warrant.

In conclusion the author wishes to state that he has all too sketchily presented to you something of modern mental hygiene. Two things need to be done to advance our knowledge and better our treatment of the mentally ill: The first is more intensive research on the part of physicians, psychiatrists and psychologists. The second is an aroused public interest in the mentally ill that will demand adequate financial support for the mental hospitals through larger legislative appropriations.

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X Ray Cancer Centers

Major General Norman T. Kirk, the Surgeon General, recently announced that, although cancer was not a major problem at any time during World War II, the Army Medical Department still operates four deep x ray centers where patients are treated.

"The highest incidence rate for cancer, reported between the years of 1941 to 1945, was 0.34 per thousand per year or about three men out of every 10,000", General Kirk revealed. "However, the army medical scientists will continue study and treatment of the disease in our established deep x ray centers, both for the Army's welfare and that of civilians."

Walter Reed General Hospital has one of a few million volt roentgen therapy machines in the world. The million volt machine is set up in a concrete room with walls three feet thick. The door to the chamber is of lead one inch thick, and the window through which the doctors may direct and observe proceedings when the voltage is turned on, is composed of two panes of special glass with a volume of special fluid between. The length and strength of the rays are measured by sensitive gauges which are constantly checked and regulated by the hospital physicist. The mobility and easy manipulation of the machine, which when not in use is pulled up into a dome of the ceiling, makes it possible to focus its rays at the exact angle desired while the patient lies comfortably on a table. Ordinary electric lights in the nose of the machine help determine the area of direct focus over the tumor, before the million volt roentgen ray is used.

When electrons are stopped by atomic units in the cells, energy is set free. This freed energy disrupts various biological activities, including the atomic activity and results in the destruction of cells and tissue. Super-voltage (1000 KV.), has certain physical advantages over the high voltage (200 KV.), the first due to the greater speed with which the secondary electrons travel when the superhigh voltage roentgen ray passes through tissues. Secondary radiation resulting from super voltage, travels with so great a speed that less is absorbed in the superficial skin layers. Consequently, there is less skin damage and a larger amount of primary radiation can be delivered through each skin portal. Slow moving electrons effected by less voltage, are more readily absorbed by that tissue adjacent to the point of contact. The result is that when the cancer is treated with the high rather than the super voltage rays, the normal tissue surrounding it may become damaged by the secondary radiation and present an added complication. The second advantage of the supervoltage is that a greater percentage of the primary beam reaches the depth of the tumor. The secondary radiations are driven with such tremendous force that they are added to, and become a part of the bundle of the primary beam energy. A narrower beam of supervoltage ray gives, therefore, more radiation to the tumor, without a haphazard scattering of secondary radiation to the adjacent tissue.

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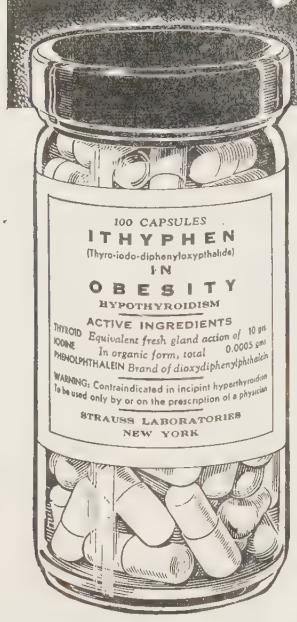
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Brain Wave Heredity

"Brain waves," electrical pulsations given off by the brain, have been pictured by medical science's EEG machine, (electroencephalogram machine) in a technique similar to the lie detector that aids the diagnosis of psychiatrists, according to Dr. Margaret A. Kennard of New York University. Dr. Kennard, associate professor of neuropsychiatry, New York University College of Medicine, made the announcement in a talk given as part of the college's annual Alumni Day.

Pictures from the EEG machine add to the evidence that heredity plays an important part in the makeup of individuals susceptible to emotional stress and strain, Dr. Kennard said. The subject of proving the relative influence of heredity and environment on the makeup of individuals has been debated by psychiatrists since the beginning of psychiatry, but in recent years it has become generally accepted that environment plays a dominent role.

Records of parents and relatives of children with behavior disorders taken at New York University College of Medicine's affiliated hospital, Bellevue, show that individual children have "markedly similar" EEG brain wave patterns to other members of their families, Dr. Kennard said. It has been shown previously by Dr. William G. Lennox of Boston that there are family characteristics in the EEG records of epileptics and their relatives, Dr. Kennard said.

Speaking of the capabilities of the EEG machine in other fields, Dr. Kennard added that pictures of brain waves can "usually" show whether epilepsy is present and what type of epilepsy seizure will be encountered, "often" evaluate changes in the brain after injury, "possibly" detect local disturbances of the brain from a tumor and "with relative certainty," indicate the part of the brain affected by the tumor. Most normal people have brain wave frequencies that fall into one bracket, while many patients with diseases included in the field of psychosomatic medicine have other patterns, Dr. Kennard said. A tense individual, she said, one who is easily startled, has a different type of brain wave than a person who takes things as they come.

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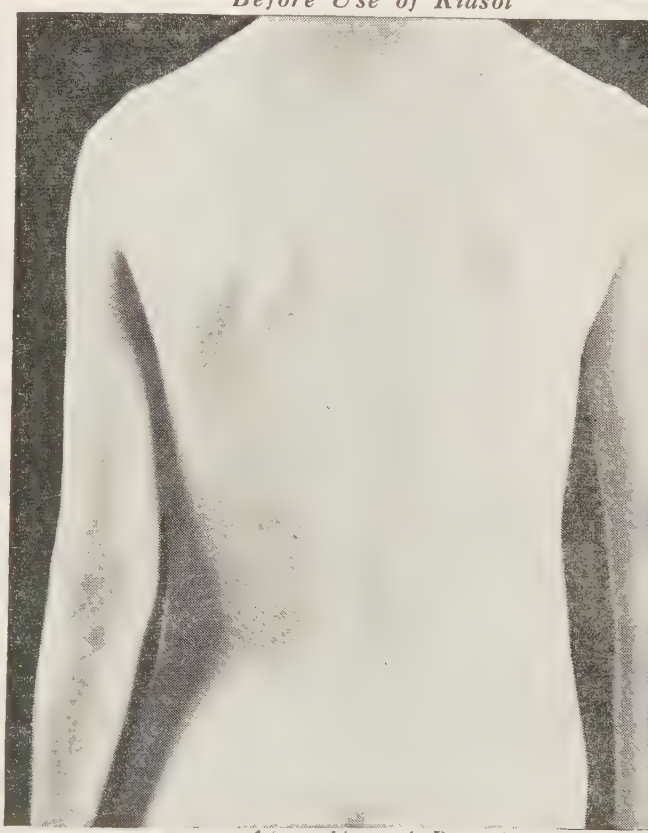

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Atomic Bomb Casualty Commission

A number of interesting facts relating to the Japanese who survived at Hiroshima and Nagasaki were disclosed in the report of the Atomic Bomb Casualty Commission released by the War Department at a recent press conference held in the Office of the Surgeon General.

Brigadier General Raymond W. Bliss, Deputy Surgeon General, and Colonel W. S. Stone, Chairman, Army Medical Research and Development Board, presided at the conference. Drs. Austin M. Brues and Paul S. Henshaw, who directed the Commission's survey, as well as other atomic scientists, were present.

The report carries no spectacular data or stories on freakism or physical anomalies among babies born to persons who were exposed to the bomb. It does not deal in the sensational. Based upon a study which was relatively short—about six weeks—the report simply gives a direct, unpretentious picture of work which is under way to evaluate the results upon human beings of a massive dosage of radiation, in combination with the heat and concussion generated by nuclear fission.

Their investigation, launched in Japan late in November of last year and concluded early in January, was made possible through collaboration of the National Research Council, War Department, Navy Department, U. S. Public Health Service and the American Cancer Society.

Following are some highlights of the commission's report, which was reviewed and cleared by the Atomic Energy Commission prior to issuance:

"Members of the commission have been impressed during their observations of atomic bomb survivors by the fact that many of the burns have healed with accumulations of large amounts of elevated scar tissue, the so-called keloids," said the report.

"The striking feature noted is the large number of burns that have healed with excessive quantities of scar tissue, having a relatively flat surface elevated above that of surrounding skin. Margins of these lesions are sharply defined. The area involved varies very much, some being as small as one centimeter in diameter while others may involve most of the face or the back. The maximum growth of such tissue evidently was reached about eight to ten months following the injury . . . These are the so-called keloids."

"The assay of possible genetic effects is much more readily performed in plant and animal material than in man with, however, the important qualification that in man and, to a lesser extent, plant material, it is often impossible to be certain of position at the time of the bombing," says the report. "The Japanese efforts to utilize animal material have been completely nullified by the chaotic conditions and poor food situation."

Experiments with Drosophila fruit flies also had to be abandoned for lack of facilities and adequate testor stocks. With respect to plant material studies, the Japanese made certain observations purporting to show that vegetables grown in Nagasaki from seed from plants that were well beyond the known radius of bomb effects tended to assume unusual forms when grown near the ground center of the explosion. Dr. Takeo Furuno, noted horticulturist, maintained two experimental garden plots, one 150 meters and the other 500 meters from the hypocenter. Abnormal vegetative forms of Brassica chinensis, Lappa edulis, Cucurbita moschata, Solanum melongena and other species were reported to be far more frequent in the plot nearest the hypocenter, attributable to some effect of the atomic bombing on the soil.

"These two plots were inspected," says the Brues-Henshaw report, "and specimens of the vegetables examined. It was the opinion that soil differences complicate the picture to an extent where it is impossible to reach conclusions."

During the months of October and November, 1945, a study was conducted on 124 male inhabitants of Hiroshima. Examinations disclosed that, in 43 cases, the number of spermatocytes in the ejaculated sperm was less than 5,000 per cubic millimeter, or "absolutely sterile," in the words of Prof. Tsuzuki. Ten other cases were "relatively sterile" and the remaining 71 were normal.

"A reformation of the spermatocytes occurs in one month, so the recovery of damage to spermatocyte formation will be delayed more than that of the damage of white blood cells. The shorter the distance the more severe was the damage. The damaging influence on the number of spermatocytes was observed in the area within a radius of three kilometers (about two miles) from the ground center. Within a radius of 2.5 kilometers there appeared some sterile cases. Within a radius of 1.5 kilometers one-half of the cases showed sterility."

Women who were in an early stage of pregnancy "have taken a normal course since the bombing," said Dr. Tsuzuki.

"It is already experimentally proved both in botany and zoology that there is a possibilty of producing a malformation of descendants when the sexual cells are affected in some degree by radioactive energy. The question, if this fact is applicable to the human beings or not, will be made clear by further observations.

"We have already clear evidence that the human sexual cells are also affected by the atomic bomb injuries. There is a possibility of malformation of the descendants, if the sexual cells should be affected selectively, without any severe damage to the other organs or tissues.

"In the survey of spermatocytes, it was noticed that they decreased not only in their number but they showed also some structural abnormalities. This problem must be, therefore, taken up and carefully followed further."

"Comparing the death rates of males and females, we find they are almost equal outside a radius of 1.5 kilometers from the ground center, but the rate of females within a radius of 1 kilometer seems to be lower than that of males. While we were staying at Hiroshima, we often heard that under the same conditions, men died more quickly, women

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The Atomic Bomb Casualty Commission report says:

"The commission's view that much valuable information can be obtained from a long-term study of atomic bomb casualties has been strengthened . . . From previous irradiation experiences with both animals and human beings, there is good reason to believe that reproductive disturbances, malignancies of one form or another, shortened life span, altered genetic pattern, etc., will in time appear in greater or lesser degrees.

"The problem is one of detecting the changes and recording the events as they occur. It is the view of the commission, furthermore, that with the possible exception of genetic recessives (physical monstrosities which might not crop out for several generations), the various changes can be successfully detected and recorded. This presupposes, of course, the proper cooperation with the Japanese and a reasonable expenditure of funds."

George Washington University Research

Grants for medical research totaling about $150,000 have been awarded The George Washington University Medical School which this year is operating the largest research program in the history of the one hundred and twenty one year old institution.

Largest of the grants is one for $40,000 of public funds for research in anesthesia and the use of penicillin and streptomycin in antibiotics. Those engaged in this project are Dr. Brian B. Blades, professor of surgery and administrator of the Medical School research program; Dr. Lloyd Mousel, clinical professor of anesthesiology; and Dr. Monroe James Romansky, associate clinical professor of medicine.

Six projects are being directed by Dr. Paul K. Smith, professor of pharmacology. These are: a study of drugs for treatment of typhus fever and Rocky Mountain spotted fever for the Navy, a study of drugs for treatment of rheumatic fever for the Institute for Study of Analgesic Drugs, a study of drugs that show some promise of impeding tumor growth for the National Cancer Institute, a study of the toxicity of drugs used in arthritis for the American Medical Association, a study of the use of demerol for morphine for Winthrop Chemical Company, and studies of drugs for relief of muscle spasms for Billhuber-Knoll Company.

Penicillin research for the Lederle Laboratories is being conducted by Dr. Harry F. Dowling, clinical professor of medicine, who is studying treatment of various infections with penicillin, new preparations of penicillin, and treatment of various infections with streptomycin.

Under the supervision of Dr. Errett C. Albritton, professor of physiology, a contract with the United States Public Health Service is being executed to study endocrine factors in the self selection of diet by rats and the validity of self selection of diet by rats as an instrument with which to investigate metabolism of the animal.

Research in hypertension is being continued by Dr. Paul F. Dickens, clinical professor of medicine, under a grant from the Cecelia Cummings Fund set up by Homer S. Cummings, former Attorney General of the United States and a trustee of The George Washington University.

A grant to assist Dr. Joseph H. Roo, professor of biochemistry, in continuing research on the methods for the determination of Vitamin C in plant and animal tissues has been made by the Nutrition Foundation Inc. of New York. Dr. Roo did research on this subject for the National Research Council during the war.

Under a contract with the department of surgery, Dr. Jacob J. Weinstein, associate in surgery, is directing an investigation of protein metabolism in surgical diseases and use of protein therapy pareantally and orally in both pre- and post-operative care of surgical and allied diseases.

A number of special studies are being carried on this year by private donations for special studies in cardio-vascular disease under the University's Cardiology Research Fund. These include studies involving use of multiple and special leads in taking electrocardiograms by Dr. Benjamin Manchester, associate in medicine, and Dr. Clayton B. Ethridge, assistant clinical professor in medicine: a paper just completed by these two doctors in collaboration with Dr. Irving Wolfe Winik, associate in medicine; work being continued in the department concerning use of newer type drugs in the treatment of vascular diseases; and a new method for producing prolonged local sympathetic nervous system block by iontophoresis by Dr. Manchester.

Other research being carried on this year by grants from the University includes a study of the effect of vitamin E on the vascular system of rats by Dr. Ira R. Telford, assistant professor of anatomy; and experimental vascular surgery in dogs by Drs. Blades, Smith, and Charles Stanley White, trustee of the University.

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RECENT TRENDS IN THE TREATMENT OF PARKINSONISM

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New York, N. Y.

Much has been written about the treatment of Parkinsonism in the past twenty years by Stemplinger (1), Roemer (2), Kleeman (3), Marinesco (4), Vollmer (5), Neal (6), and others, and time has sadly proven that far more had been claimed for individual remedies than was warranted by the nature of the problem, or the merits of the available treatment modalities. With this in mind, a clinical appraisal was undertaken six months ago, into the efficacy of present treatment measures, among a group of fifty-five such cases*. However, before entering into the results of the study, we feel it is desirable to briefly review the nature, etiology and pathology of the problem.

Nature and Etiology of the Problem

There are several distinct clinical varieties of Parkinsonism; the most important are the postencephalitic, the idiopathic, and the arteriosclerotic. In the past, it had been the practice to consider Parkinsonism as more specifically related to the Parkinson syndrome of paralysis agitans, but gradually the profession has come to regard all forms of Parkinsonism, whether derived from this source, or encephalitis, as collectively belonging to the category. Moreover, clinical experience has taught that it would probably best serve the interests of the patients if the term, paralysis agitans, were abandoned entirely, because of its misleading nomenclature and the alarm that the word "paralysis" brings to the patient in the early stage of the disease. The different types of Parkinsonism may be described as follows:

1. *Postencephalitic Parkinsonism.*—This entity came into sharp notice at the time of the First World War and was regarded by many as a new ailment, possibly resulting from structural changes in the virus causing the disease and thereby accounting for the sudden special affinity for the basal ganglia of the brain. There were, on the other hand, controversial claims, that sporatic instances of the illness had occurred long before 1915, but that these had not been properly understood or classified. Be that as it may, it is certain that the malady first came into prominent attention about that time, and that vast numbers of cases were recorded throughout the universe. New energies were turned to combat its incidence, course and effects. Great hopes were engendered by the early efforts to discover a vaccine that would prevent or mitigate the illness. After many unsuccessful attempts, these were finally abandoned. Serious attention was then turned toward the improvisation of remedies and measures that might arrest the progress of the symptoms, but they wretchedly failed to sustain the initial hopes and claims propounded by over-zealous investigators.

In recent years, more sober thinking has crystallized into a recognition that we are dealing with a chronic progressive ailment, either due to the chronicity of the intrinsic process, or as a result of secondary changes developing from the original attack of the virus. Modern treatment concerns itself almost entirely with the alleviation of symptoms.

The ailment affects young people under forty years of age, and the onset is most often under thirty years of age. The decade following the First World War saw many cases of encephalitis lethargica among children, but with symtoms unlike that of Parkinsonism. Rather, they consisted of emotional instability, behavior disorders, irritability, impulsive and violent acts, respiratory disorders, sleep disorders, and in a few cases facial fixity and general rigidity. In recent years, however, it has been most rare to see such new cases developing among children and even sporadic instances of encephalitis lethargica among adults are very small in number, as compared to the flood of cases that followed upon the epidemics of influenza of 1918 to 1920.

The illness affects both sexes alike. In some patients, the symptoms are ushered in shortly after an attack of grippe and encephalitis, but in most cases the symptoms do not appear until many years later, sometimes as long as ten or twenty years after the initial attack. The first symptom to manifest itself is a slowing up of the body, followed by rigidity and the loss of spontaneous movement on one side of the body. After a time the process spreads to the opposite side, or may affect individual limbs, from a shade of the normal, to a

*The investigation was conducted at the Vanderbilt Clinic, New York City, under the Department of Neurology, College of Physicians and Surgeons, Columbia University, New York.

**Acknowledgement of thanks is due Charles G. McKendree, M. D., for valuable assistance in the project.

degree so severe that contractures distort the fingers out of alignment and render voluntary movement of the affected joints most difficult. Such patients are severely incapacitated. In most instances, the neck muscles become affected early, and the trunk somewhat later. In some, the trunkal rigidity is so pronounced that the anti-gravity muscles sag from the limitation to voluntary action of the extensor spinal muscles, and the body becomes progressively bent to a horizontal position. Tremor develops sometime after the rigidity and adds to the total discomfort of the patient. It interferes with gainful work more readily than the rigidity component. It is especially disturbing to the patient, because it is so readily noticeable to others, and, in his constant anxiety to control it, the tremor becomes worse. When the patient is quiet and relaxed, the tremor subsides or disappears.

Since the encephalitic process affects other structures besides the basal ganglia, such as the hypothalamus, oculomotor nuclei, the pons, the medulla, and sometimes the spinal cord, still other symptoms are manifested by different patients, to varying degrees. These may be listed as, lethargy, oculogyria, fixed facies, monotone speech, dysphagia, dysphonia, sialorrhea, weakness of eye convergence, and mental symptoms*.

Parkinsonism is, nevertheless, *a friendly illness,* to the extent that minimal to even advanced grades of rigidity may exist for ten or even as long as twenty-five years and limit the patient's comfort and movement, and yet not prevent them from slowly performing minor chores about the home, visiting movies and friends, and so forth. Moreover, an observation that is of interest and one that has thus far passed unnoticed, concerns the absence of intercurrent ailments among these patients, except during the last stage of the illness when they are bedridden. They seem almost never to suffer from colds, pneumonia, tuberculosis, kidney disease, angina pectoris or other cardiac disorders, and they seem immune to cerebral vascular accidents. Even cancer stays far from their door. The explanation of this strange finding probably rests in the fact that the condition retards the vital processes and forces them to a slow pace with plenty of rest and sleep, so that they are spared the wear and tear of undue strains and excitements that other mortals are heir to in our modern hectic existence. However, the internist may be better prepared to provide a suitable answer to this intriguing phenomenon.

2. *Idiopathic Parkinsonism.*—This group comprises cases where the onset of the illness occurs between forty-five and fifty-five years of age, most often past fifty, and wherein tremor is far more pronounced than rigidity. Tremor of an arm is often the only presenting complaint. Careful screening may reveal slight weakness of the face and leg on the affected side. Except for the emotional factors, they are the least disabled of the Parkinson cases. They never suffer from oculogyria, or the bulbar symptoms that plague the postencephalitic, and there is no lethargy and little, if any, fixity of expression. The menopause state in women and emotional factors in men, frequently seem associated with the onset of the illness. There is usually no history of previous headache, high blood pressure or stroke, and the retinal and peripheral arteries fail to reveal evidence of arteriosclerosis. Moreover, at autopsy there are no changes noted in the blood vessels of the brain, nor signs of encephalitis, nor any clear-cut pathology to explain the illness. Hence, until more becomes known as to the etiology of this form of Parkinsonism, these cases should be best described as *idiopathic.* It is true, however, that in the course of years, they progress into the following category.

3. *Arteriosclerotic Parkinsonism.*—Here the onset of the illness is generally past fifty-five years of age and is ushered in by tremor and rigidity in one-half of the body, with tremors usually preceding the rigidity, but not invariably so. The rigidity rapidly affects the neck, face and trunk, and in time, spreads to all the extremities. There is regular evidence of arteriosclerotic changes in the retinal and other vessels, and there is usually an antecedent history of vascular accidents, high blood pressure, headaches, kidney disease, and so forth. These people, however, never suffer from oculogyria, lethargy or weakness of ocular convergence that feature the encephalitic cases. Despite the age of onset of the illness, the vast majority do well for many years under medication, reassurance and advice on habits of living, although a few rapidly progress into partial or total disability and succumb to intercurrent infections or vascular complications.

These three groups constitute some ninety to ninety-five percent of all cases of Parkinsonism.

4. *Other forms of Parkinsonism.*—

a. In this category belongs the comparatively few cases resulting from *carbon monoxide poisoning.* These, however, show a strikingly different symptomatology and course from the other forms of Parkinsonism. The process is not progressive and the symptoms, while including a minimum of rigidity, also exhibit marked mental dullness and absence of expression rather than lethargy or a fixed expression. Moreover, the tremor is not rhythmic and spontaneous, but rather of the effort type. Furthermore the condition is often accompanied by convulsions and the intellectual and memory faculties

*With regard to the mental symptoms, one of the writers, Dr. Loewy, offers original thought in the following: "The psychopathology manifested by these patients is most fascinating and constitutes a stepping-stone on the way to the solution of the fundamental problems of the neuropsychological relations. The behavior of the postencephalitic adults, reveals an increased tendency toward inhibition of the expansiveness of the psychomotor impulses. There is as well an increased tendency toward inhibition, not only of the impulses of the expanding instincts, but also of expansiveness of all the psychic impulses, the intellectual, volitional and to a certain degree, also the emotional ones. This tendency appears in two forms: as a general retardation (and thus also of impoverishment) of the universal psychic activity, and as a specific functional mechanism of inhibition, which leads to imprisonment of the psychomotor impulses, i.e. they are chased around in definite circular neuronic pathways of an elevated central excitatory state within closed chains. By this means the impulse loses its expansiveness and leads to compulsive thinking and phobias, or the anankasms. Thus there develops a mental and emotional rigidity, analogous to the muscular rigidity. The anxiety deriving from the compulsory thinking, determines the appearance or increase of the typical tremor and from the fixed compulsory position of the eyeballs derive the oculogyric crises, the fixed gaze, oneiric states, as well as symptoms of irritation of the autonomic nervous system." A full presentation of Dr. Loewy's views will shortly appear in a separate paper.

are severely and permanently damaged, so that we find apraxia, alexia, agraphia, and agnosia. Patients of this type barely know their name and are unable to calculate the simplest numbers. The treatment measures employed for the other Parkinson groups are of no avail in this condition.

b. *Cases with trauma* as a precipitating factor in Parkinsonism. Such instances occur among the groups that would ordinarily be classified as idiopathic or arteriosclerotic, and the Parkinsonian syndrome that they present is quite characteristic of one or the other. There is great doubt that the injury *per se* is the determining element, since injury among younger people is never found to lead to a similar clinical picture. More than likely the trauma only serves to precipitate an evanescent form into one of full-blown clinical manifestations.

c. *The luetic form of Parkinsonism* was found among three cases of arrested syphilis at the age range of forty-five to fifty-five. Syphilis most probably serves, like diabetes, occasionally, to accelerate a vascular form of Parkinsonism, at a premature age. There are cases also, wherein syphilis coexists simultaneously with an encephalitic form of Parkinsonism. There were two such patients in our series.

d. *The senile form of Parkinsonism* properly belongs with the arteriosclerotic, except that the age of onset of the manifest symptoms is past sixty-five, and tremor is a more outstanding feature than rigidity, although in some cases the rigidity of the trunk, neck and arms becomes quite pronounced.

Pathology of Parkinsonism

There is considerable controversy as to which lesions, among many in the nervous system, directly account for the Parkinson syndrome. The symtomatology of Parkinsonism has nevertheless been attributable to pathological processes in the extrapyramidal system. At present most investigators, among them Kinnier-Wilson (7), and Fulton (8), agree that the pathology is a chronic outfalling of cells and fiber systems and that the location is mainly in the *globus pallidus, putamen, substantia nigra,* to a lesser extent in the cortex, and occasionally in the body of Luys and red nucleus. However, it must be remembered that the intricate vascular supply of the basal ganglia and their immediate proximity to the corticospinal tracts sometimes renders it difficult to rule out concomitant involvement of the latter system.

It is best to consider that a pathological process at any level of the extrapyramidal system, (cortical, striatal or mesencephalic), may produce the symptoms of Parkinsonism. The following may be helpful in determining the particular level of pathological involvement, although because of the complexity of the fiber connections all levels are usually affected.

1. Cortical—(Areas 6 and 4S)

a. Unilateral spasticity, hyper-reflexia and mild cog-wheel rigidity.

b. Minor loss of associated and skilled movements.

2. Striatal—(*globus pallidus, putamen* and caudate nucleus.)

a. Rigidity with cog-wheel resistance.

b. Involuntary movements.

3. Mesencephalic—(*substantia nigra,* portion of red nucleus, and subthalamic body of Luys)

a. Great intensification of rigidity.

b. Marked loss of associated movement and tremor.

Results of Treatment

The fifty-five Parkinson cases in our study were followed during a period of six months, to determine the comparative value of the different preparations currently employed in this condition, and to note the advantages and disadvantages of each, among the various forms of Parkinsonism.

There were thirty-nine males and sixteen females in the group under treatment. The youngest patient was thirty-one years of age. The results of therapy, recorded in the Table, were considered: negative, if the particular remedy led to aggravation of the symptoms; unchanged, if the patient derived no relief; and improved, if the symptoms were lessened to any degree and the patient's comfort and well-being bettered. It was not believed advisable to split hairs on shades of improvement, a practice employed in the past when cases under treatment with one or another remedy were classified as slightly improved, improved, much improved, and when even so-called "cures" were recorded by over-enthusiastic observers (9). Time has proved that such shades of recording are unwarranted, since many of the so-called "cures" and remarkable improvements tend to diminish or vanish in the course of a year or two of the same therapy; and furthermore upon the sudden cessation of treatment, these "cures" disappear immediately. Clearer thinking has shown that the condition is progressive and hence does not justify exuberant conclusions at any particular cross section of the long, drawn-out course.

In evaluating the outcomes in our series, we resorted to a new method of objective and precise measurement of clinical changes in the patients. This was found to closely correlate with similar observations noted during graphic studies of such cases by one of the authors (10). (The technique will be reported in detail in a future presentation.)

Certain precautions must be exercised in the interpretation of the data appearing in the Table. Firstly, patients had to be switched from Bellabulgara, because the manufacture of the product had been discontinued and it became increasingly difficult for patients to obtain it at drug houses. Some had become acclimated to the preparation and found readjustment to substitutes not an easy one. Most of them, however, soon obtained comparable satisfaction and relief from Vinobel, or Rabellon, and a few from Stramonium or Atropine. Secondly, it was at times difficult for the patients to purchase even Vinobel or Rabellon*, and during such enforced delay the patients either suffered effects of withdrawal and a relapse of symptoms, or returned to any substitute remedies that were available to them.

TABLE OF RESULTS

NATURE OF PROBLEM AND TREATMENT	Encephalitic Parkinsonism		Idiopathic Parkinsonism		Arteriosclerotic Parkinsonism		Totals	
	Male 20 cases	*Female 8 cases*	*Male 6 cases*	*Female 4 cases*	*Male 13 cases*	*Female 4 cases*	*Male 39 cases*	*Female 16 cases*
Age Range								
Under 45 years	8	6					8	6
46-55 years	10	2	6	4	2		18	6
56 and over	2				11	4	13	4
Duration of Illness								
One year			1		5	2	6	2
2-5 years	4	1	3	3	4	1	11	5
6 years and over	16	7	2	1	4	1	22	9
Nature of Onset								
With Grippe	13	5					13	5
With Trauma			1	1			1	1
With Syphilis	2				1		3	
Acute			1	1	4		5	1
Insidious	5	3	4	2	8	4	17	9
Course								
Rapid	3	1	4	2	8	3	15	6
Slowly progressive	15	6	1		3	1	19	7
Stationary	2	1	1	2	2		5	3
Stage of Illness								
Mild	1	1	3	1	1		5	2
Moderate	11	5	2	2	5	1	18	8
Advanced	8	2	1	1	7	3	16	6
RESULTS OF TREATMENT								
Bellabulgara								
Worse			1				1	
Unchanged	2	1		1	2		4	2
Improved	7	1			3		10	1
Rabellon								
Worse					2		2	
Unchanged	3	1	2		1		6	1
Improved	5		1	2	1		7	2
Vinobel								
Worse	1						1	
Unchanged	3		2	1	2	2	7	3
Improved	3	5	2		3		8	5
Atropine								
Worse		1						1
Unchanged	2	2	2				4	2
Improved	7	1					7	1
Stramonium								
Worse	1	1					1	1
Unchanged		2	1	2	2	2	3	6
Improved	3			2	5	1	8	3
Hyoscine								
Worse		1		1				2
Unchanged		1	1	1	2	1	3	3
Improved	10	2	1	1	7	2	18	5
**Novatrine*								
Worse	1	1			2		3	1
Unchanged	8		1	1	2		11	1
Improved					1		1	

**Used as a control preparation*

Thirdly, patients tend to tire of the long siege of the illness and many of them are in constant search for a new discovery, or drug, that will bring them the hoped for relief from discomfort and disability. When such patients declare manifest dissatisfaction with a current treatment program, research considerations become of secondary importance and they are transferred to another program. Despite these and other handicaps, however, the study afforded adequate opportunity for a satisfactory survey of the comparative value and results of the different preparations employed in this ailment.

Bellabulgara is a brown tablet containing 0.45 mgs. of Bulgarian belladonna root and is prescribed in amounts of from one to ten tablets a day, depending upon the special tolerance and needs of the patient. Rabellon is a white tablet, containing 0.5 mgs. of domestic belladonna root and has the advantage of being manufactured in a four part tablet rendering it easier for patients to start with a quarter or a half tablet, until they build up to the optimum dosage. Some patients take as many as ten tablets a day without undue reactions. Vinobel is provided in two strengths, a red pill containing 0.4 mgs. of domestic belladonna root, and a larger, pink pill containing 0.8 mgs. of the same. The smaller pill may be taken in amounts of from one to ten tablets a day and the larger tablet in lesser amounts. Atropine is prescribed in the half percent solution, in increasing number of drops, *t.i.d.*, commencing with 1, 2, or 3 drops. Ten drops *t.i.d.*, is the usual maximum used. Massive dosage of atropine has long been abandoned because it invites disturbing reactions without providing any special advantages to warrant the risk. Tincture of stramonium is usually started with 20 drops *t.i.d.* and slowly built up to 60 drops *t.i.d.*, then gradually reduced to 20 and again increased. Many patients find satisfaction with this program. Hyoscine is prescribed in 1/100 of a grain tablet, one to six a day.

It should be noted that atropine is more regularly employed with the younger group of postencephalitics, and tincture stramonium with the older arteriosclerotics. Rabellon, Bellabulgara and Vinobel are suited to all age groups. Atropine relaxes spasm and rigidity and is the essential agent in Bellabulgara, Vinobel, Rabellon and Stramonium.

Stramonium contains a greater proportion of hyoscine than the others. Bellabulgara, Rabellon and Vinobel consist, to the very largest extent, of hyoscyamine, which in the process of extraction or in the body becomes converted into atropine (9). Hyoscine is particularly valuable for the control of tremor. It is a drug par excellence in all forms of Parkinsonism and is most often employed in conjunction with one of the other remedies, although in some idiopathic and arteriosclerotic cases it is used alone and with good effect. It causes few reactions, is well tolerated, and well liked by the patients as a group. Benzedrine is occasionally used in conjunction with other remedies, preferably among the younger cases, when lethargy and fatigue are presenting problems.

Novatrine* was employed in the series as a control preparation, since it was known in advance to be a far better visceral antispasmodic, than a remedy for Parkinsonian symptoms. Hence its poor showing should by no means be considered as a reflection upon the efficacy of the drug in visceral and other disorders. Physiotherapy and occupational therapy were utilized in but a few cases, and for short periods, because of the limitation of facilities. They are helpful modalities, if available and needed. Exercises and an active program of work and interests are desirable and should be regularly prescribed to each patient. Iodides, calcium, vitamins and tonics bring some measure of betterment to individual patients of the arteriosclerotic group. Nicotinic acid is helpful in counteracting the vasomotor disturbances that come with rigidity and contractures. Tincture of belladonna, belladonna tablets and stramonium pills, are resorted to as substitute preparations for atropine and tincture of stramonium, but are not nearly as serviceable. Other remedies occasionally employed in Parkinsonism are:—pyridoxine, prostigmine and curare. Pyridoxine and prostigmine seem to have no more than a psychotherapeutic effect through the medium of injection. Curare is of definite help in relaxing spastic muscles, but has no lasting value, is too expensive, and has to be employed with special caution and skill. Psychotherapy was provided for a number of the patients by one of the writers and proved of decided service in a large project of this nature.

The findings in the Table may be summarized as follows:

1. All six preparations show instances in the negative and unchanged columns, some more and others less. There is no drug that will work successfully with all Parkinson patients nor even with all cases in a particular category, since as mentioned, they tend to tire of any remedy and with the passing of time make demands for something new or better. Because the illness runs a protracted course, it is well that we possess a wide enough variety of suitable remedies to meet their ever changing fancies and needs.

2. The incidence of improvement with the three proprietary drugs, Bellabulgara, Vinobel, and Rabellon, shows no sharp difference for any one of them, except perhaps for a shade of preference for Bellabulgara among postencephalitic cases, who claim that they feel freer and that the dryness lasts a trifle longer than with the other products. With Bellabulgara there was improvement among eleven cases out of a total of eighteen, or sixty-one percent; with Vinobel there was improvement among thirteen cases out of twenty-four, or fifty-four percent; and with Rabellon among nine cases out of eighteen, or fifty percent. It would be misleading to interpret such minor differences as establishing superiority of one product over another. What can safely be stated is that each of them has positive value in the

*Expression of thanks is due the Sharp and Dohme Laboratories for providing the clinic with a workable supply of Rabellon, and similarly the William S. Merrell Co. for Vinobel, which were distributed to indigent cases among the group under study.

*Thanks is due the Campbell Products Co. for the liberal supply of their product to the research program.

treatment of Parkinsonism, in slightly varying degrees.

3. All six preparations are good drugs for the alleviation of the Parkinson symptoms, even though they may perform poorly in individual instances. In proper dosage they are entirely harmless and the reactions minimal. No one of them is a cure and none should be expected in this type of problem. We can only hope that neurosurgery will come to the rescue and provide more lasting relief than is to be anticipated from any medicinal preparation. Unfortunately, surgery has thus far not been of great help, although pioneering work is being conducted industriously. The eventual successful development of a single, safe surgical technique for severing the extrapyramidal pathways may provide permanent relief from the tremors, dystonias and rigidities that plague these patients. However, in the total absence of any preventive or curative measures, and until such time as surgery can bring greater benefits to these sufferers, we will need to rely on the above mentioned preparations as the best that are currently available to them, and without which they would be much more uncomfortable and disabled. By varying the dosage and shifting from one product to another, most suited to the particular type of Parkinsonism and degree of disability, they can be carried along for many years in fair comfort, gainful work and service to their families.

Conclusions

1. Hyoscine, atropine, tincture of stramonium, Bellabulgara*, Rabellon, and Vinobel are the present drugs of choice in the treatment of Parkinsonism. Atropine alone, or in combination with hyoscine, is better suited to the postencephalitic form; tincture of stramonium to the arteriosclerotic and idiopathic forms; while hyoscine, Bellabulgara, Vinobel, and Rabellon may be used in all forms of Parkinsonism. Since, however, the condition is chronic and progressive, bombastic claims of outcomes are not warranted during any cross-section period of treatment, regardless of what preparation is employed.

2. The effect of these drugs upon the Parkinson state does not rest on the psychotherapeutic level, since when patients are placed on a control drug, in this case Novatrine, which is a visceral antispasmodic, they invariably do poorly and have to be quickly returned to one of the above preparations. However, the condition is long-drawn, and the patients in the course of months or years tire of any remedy, in an everlasting search for something new or better, hence they have to be shifted every now and then from one to another of the above drugs. Thus it happens that a patient, after transfer to other products, may return to his original treatment a half dozen times within a period of ten years. Under such circumstances, it is well that we have a wide enough selection of suitable remedies to meet the ever changing fancies and needs of the patients.

3. No demonstrable superiority of one product over another was noted among the three proprietary drugs, Bellabulgara, Vinobel, and Rabellon.

4. All six preparations are of definite value and help to the patients, without which they would be far more miserable and disabled, even though some patients respond better to one product, than to another. In proper dosage, they are entirely harmless and the reactions minimal. In the absence of any prospect for preventive or curative measures in the offing, our hope rests in the future of neurosurgery to provide a safe procedure for the elimination of rigidity and tremors. However, until such time arrives, the above preparations consitute the very best that we can presently offer the Parkinson patient, and it is well that physicians adequately acquaint themselves with the indications and dosage of each.

*The manufacture of Bellabulgara has been discontinued, but is still available in some drug houses.

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X RAY THERAPY OF ARTHRITIS AND BURSITIS

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The purpose of this study is to further (1), analyze:

a. Types and locations of disabling arthritis most readily relieved by x ray therapy.

b. Effect of x ray therapy on radiculitis and nerve changes caused by arthritis.

c. Dermatome study in brachial plexus neuritis and sciatica with differential diagnosis and x ray therapy effects.

In the present study of twenty-five cases under x ray therapy, fifteen cases involved the cervical spine with resultant brachial plexus pain. Therefore, when there are radicular pains which radiate down the arms, it is necessary to rule out postural

defects, cervical rib, intraspinal lesions, herpes, malignancy, subclavian aneurysm, caries of cervical vertebrae, upper sulcus tumors, ruptured nucleus pulposis as well as toxic foci of infections, before these pains can be attributed to the cervical arthritis which exists.

One should bear in mind that brachial plexus neuralgias also may be associated with lesions about the shoulder areas such as tendonitis, fibrositis, periarthritis and inflammations in the region of the subacromial bursa.

A study of the distribution of the dermatomes and peripheral nerves is a prerequisite in enabling one to recognize the source of pain and tenderness. It is important to be able to recognize and evaluate the fifth, sixth and seventh cervical dermatomes because, very often, a differential diagnosis must be made between a radiculitis and a cervical arthritis or a subacromial bursitis. (See drawings of fifth, sixth, seventh and eighth cervical, and first thoracic dermatomes. Figs. 1 and 1a).

CASE 1.—Mrs. E. S., aged sixty-three, complained of severe pains, beginning in the posterior cervical region and radiating down the right shoulder, arm and fingers. The duration of the pain was four and one-half years, with a gradual increase in the severity of the symptoms and frequency of episodes.

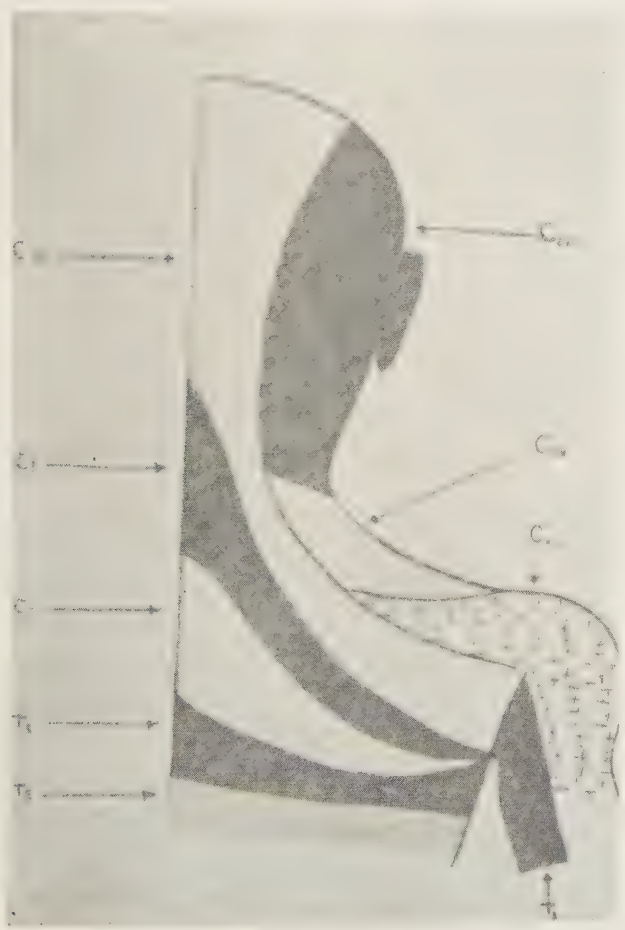

Fig. 1.—Upper cervical dermatomes.

Fig. 1a.—Rheumatoid arthritis, cervical spine.

The pains radiating into the arm and fingers were intolerable when the patient was first seen. (Fig. 1a)

The pain originated over the lower cervical region on the right and subsequently radiated down the right arm and elbow and then into the fourth and fifth fingers. There was no history of injury or other factors which might have initiated the onset.

X rays of the cervical and dorsal spines revealed marked arthritic changes. (Figs. 2 and 2a) Deep x ray therapy (180 pkv. 5 mm. Cu. and 1 mm. Al.) —1200 roentgens in air, over the lower cervical areas was instituted. These treatments were given three times weekly—100 r. per treatment, using two ports over the lower cervical and upper dorsal region—d. v. and lateral until 1200 r. in all were given. For the terminal pain over the fingers, 400 roentgens were given to the terminal nerves at the finger tips.

It is now one year since completion of the x ray therapy. The pain and tenderness have not recurred. The patient sleeps well and has not experienced any throbbing in the treated area during the past year, as was previously the case. "Rayderm" ointment was used throughout the therapy and its use was continued up to the present time in order to keep the skin soft.

Various forms of arthritis (2), have often been blamed for neurological symptoms in the upper limbs. Apart from local pain, tenderness, and stiffness of the spine, pains radiating into one or both shoulders are sometimes described. These pains often radiate into the finger tips, occasionally causing numbness and tingling therein. (Fig. 2) Occasional muscle atrophy is encountered, secondary to limited motion.

Turner and Oppenheimer (3), have analyzed the relationship between cervical arthritis and neurological changes. Their cases showed a correlation between the x ray changes and the pains radiating down the shoulder and arm to the hands. They also observed numbness, muscular weakness, and even atrophy. They correlated the narrowing of the intervertebral foraminae with the surrounding

hypertrophic changes which encroached upon the nerve roots passing through.

Marie-Strümpell arthritis of the spine (Figs. 2a and 3), (ankylosis spondylitis, atrophic spondylitis, spondylitis deformans) is a very disabling form of arthritis. It is common in the third decade and most frequently occurs in males. Pain and stiffness are very marked and in the late stages, the entire spine becomes rigid, giving rise to the term "bamboo spine" because of spinal ligament calcification.

The roentgen characteristics are: 1. Gradual blurring and disappearance of the sacroiliac joints with mottling, increase in density and ultimate fusion.

2. Osteoporosis and decalcification of all the lumbar vertebrae.

3. Narrowing, with fibrosis and even union of the apophyseal joints.

4. Calcification of all spinal ligaments resulting in so-called "bamboo spine".

R. H. Freyberg (4), found that roentgen treatment has given better and quicker relief of pain and stiffness in Marie-Strümpell arthritis than any other form of treatment. Cases followed for as long as six years showed lasting benefits. Naturally, the earlier the institution of therapy, the better the results.

Therapy factors are as follows: 180 kv.—Tsd 50 cms. 10 Ma., filtration of ½ mm. Cu. 1 mm. Al. The back is divided into four portals of 10 by 14 cms. each. A total of 400 r. is given to each area, making 1600 r. in all, measured in air. Treatments

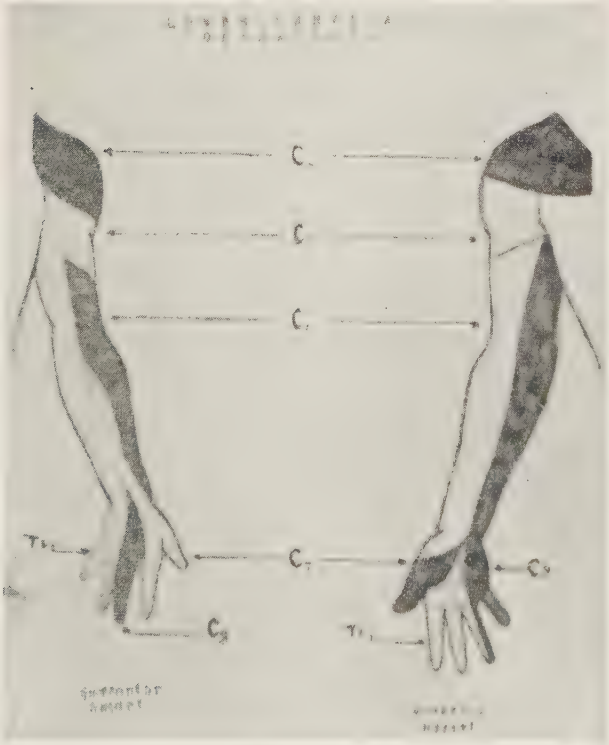

Fig. 2.—Posterior and anterior aspect.

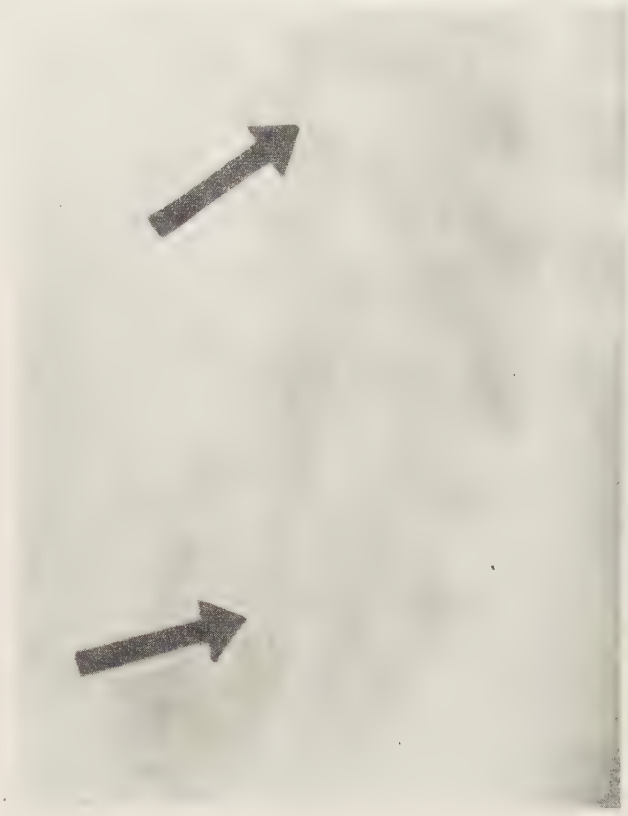

Fig. 2a.—Arthritic changes, upper dorsal vertebrae.

are given three times weekly—i.e. every other day—100 r. per treatment until the total of 1600 r. is given.

In order to keep the skin soft and prevent dryness, daily applications of "Rayderm" are advised.

Any physiotherapy such as ultraviolet or diathermy is contraindicated during the course of therapy. Laboratory work consisting of complete blood counts is recommended at least once a month. If the white count is decreased, the x ray therapy dose must either be given with extreme caution or cease entirely.

Treatment is usually limited to just the area involved. If, however, the entire spine is involved, the treatments should be directed to the entire spine.

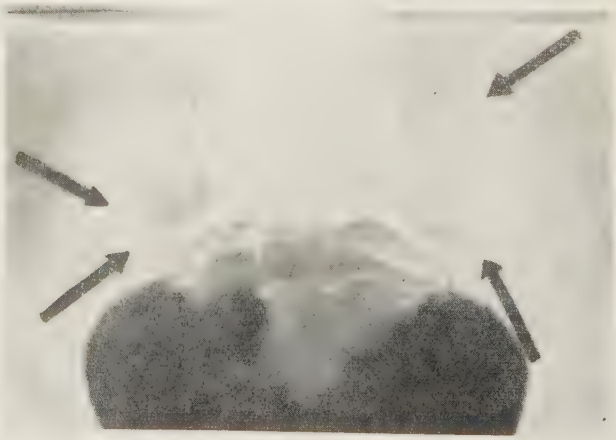

Fig. 3.—Arthritic changes, sacro-iliacs.

Evidence of recurrence of pain and swelling may be indications for further roentgen therapy. However, if two full courses of therapy do not materially alleviate the condition, further treatments should be discontinued.

G. D. Kersley (5), claims that no group of diseases susceptible to x ray therapy has been more neglected by the radiologists than the arthritides.

Hemphill and Reeves (6), reported good results in one hundred and sixty cases of Marie-Strümpell arthritis treated in different stages. Mitigation of pain and stiffness, and increased mobility were noted in a majority of cases, depending a great deal on the stage of the disease.

X rays revealed arthritis of the osteo-arthritic variety, involving L_3 and L_4 with a narrowing of the intervertebral spaces and hyperostosis.

Deep x ray therapy to the lower back was instituted. Treatment of 1300 r. directed to L_3 and L_4 were effective in alleviating the radiculitis; 100 r., three times weekly, at each treatment.

Direct irritation of the roots or branches of the sciatic nerve may have many causes. Some of the common causes of low back pains are: 1. osteochondritis, 2. tuberculosis, 3. arthritis, 4. strains or sprains, 5. traumas with rupture of nucleus pulposus, 6. fractures, 7. spondylolisthesis and 8. tumors.

In sciatic nerve radiculitis, pains usually follow the course of the sciatic nerve. The pain may be constant or intermittent. The distribution of sciatic pain includes the back, buttocks, calf and ankle. The foot and toes might also be involved.

Flexion or extension of the spine often causes severe pain due to the sciatic nerve distribution. Flexion of the thigh upon the abdomen and straightening of the leg accentuates the pain (Lasègue sign). Pressure over the sacrosciatic

RHEUMATOID AND HYPERTROPHIC ARTHRITIS

	Case	Age and Sex	Duration In Years	Areas Irradiated	No. Of Roentgens In Air	Results Of X ray Therapy
1.	H.L.	34-F	2	Cervical Upper dorsal	700 r	Radiculitis and pain in shoulders disappeared. Marked improvement.
2.	H.F.	43-F	½	Posterior cervical	1100 r	Pains in occipital region and temperomandibular articulations entirely gone.
3.	S.H.	41-M	2	Posterior cervical Mid-dorsal	1200 r 500 r	Disappearance of radicular pains of chest and arms.
4.	C.G.	61-F	8	Right shoulder Dorsal spine Right hand	800 r 700 r 500 r	Decrease in pains. Increased mobility.
5.	C.K.	45-F	2	Lower lumbar Cervical	1500 r 1500 r	Pains on sitting or standing disappeared. Radicular pains down arms gone.
6.	C.C.	32-F	10	Dorsal spine	1700 r	Mobility in spine improved. Radicular pains diminished.
7.	R.P.	72-F	7	Cervical spine Right shoulder	1200 r 800 r	Increased mobility. Disappearance of radiating pains in arms.
8.	B.S.	64-F	3	Cervical spine	1100 r	All degrees of flexion of head increased. Radiculitis disappeared.
9.	L.S.	49-F	4	Lumbar spine Cervical spine Right hip	600 r 800 r 500 r	Pain on sitting or walking diminished. Almost complete disappearance of radicular pains in arms.
10.	L.B.	56-M	3	Sacroiliacs	1300 r	Radicular pains radiating down both legs gone. Mobility increased.
11.	E.W.	51-M	5	Left elbow Left hip	1200 r 1700 r	Bursitis (olecronon) gone. Mobility in hips increased.

CASE II (*Low back pain—Sciatic nerve involvement*).—Mr. L.B., aged fifty-six, had been complaining of back pains for the past three years. These pains radiated down the entire left leg anteriorly, to the front of the ankle along the course of the anterior crural nerve. On studying the region of tenderness, a segmental area involving the third lumbar distribution was found. The spinous processes of L_3 and L_4 were tender to pressure. (Figs. 4 and 4a).

Fig. 4.—Lateral and anterior aspect, dermatomes lower lumbar roots.

Fig. 4a.—Lumbo-Sacral Roots.

notch causes radicular pain and tenderness over the course of the sciatic nerve. For diagnosis, besides x rays of the lumbar spine, sedimentation rate and blood studies, as well as neurological examinations should be accomplished.

It might be well to bear in mind that in cases where severe, continuous pain exists, which is not relieved by immobilization, physiotherapy or nerve root infiltration the patient should be subjected to spinal studies for ruptured intervertebral disk.

When the sciatic nerve is injured or inflammed, muscle spasm will usually occur on the affected side of the back and there will frequently be a scoliosis to that side.

In sciatic neuritis, the nerve is tender throughout its length. Terminal neuritis may be referred in the knee or ankle of the affected side. (Figs. 4 and 4a)

Bursitis

Before considering what mode of therapy is proper, one must differentiate bursitis from dislocation, subluxations, fractures, infections, tumors or arthritis. (Fig. 5)

Ossifying hematomae are usually associated with trauma at the site of muscle origins or insertions. The tendon insertions of the supra-spinatus or teres minor are most frequently involved.

A patient may have calcified bursal deposits for some time without symptoms of great import. Calcifications may be uni-lateral or bi-lateral. The degree of pain is in no way proportional to the amount or kind of calcifications present. Absence of calcifications deprives the condition of its most valuable diagnostic evidence (7). Furthermore, the extent of involvement of the tendon or bursa is not always shown on the x rays. Tendonitis calcarea, *per se*, does not always indicate an accompanying bursitis. The radiologist must depend on ossification of hematoma or calcified deposits in tendons for any clues to soft-tissue damage (8).

In all the cases under observation, whether calcareous deposits were present or not, the greater tuberosity of the humerus appeared to assume a more rectangular shape, surmounted by a line of increased density. This variation in the shape of the greater humeral tuberosity is apparently caused by roughening, inflammation, cortical and periosteal thickening. Subjectively, there is severe pain on

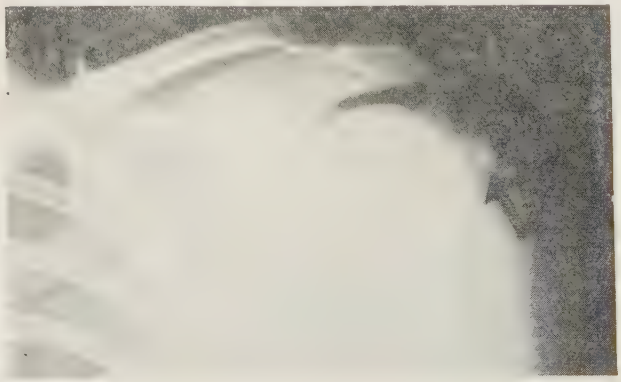

Fig. 5.—Sub-deltoid bursal deposits.

rotation and abduction. One has only to recall that the supraspinatus muscle occupies the whole of the supraspinatus fossa to understand the reason therefore. The muscular fibers converge to a tendon which crosses the upper part of the shoulder joint and insert into the highest of the three impressions on the greater tubercle of the humerus. The supraspinatus muscle assists the deltoid in raising the arm from the side of the trunk and tends to fix the head of the humerus in the glenoid cavity. The infraspinatus and teres minor, on the other hand, rotate the head of the humerus outward. These three muscles form a strong protection to the shoulder joint called the conjoined tendon.

Bursitis Symptoms

A significant bursitis symptom is unbearable pain, coming on after strain or upon motion. Pains may be localized in the shoulder or may radiate down the arm or into the fingers.

As the condition improves, with x ray therapy, the pain seems to retrace its steps, leaving the peripheral areas and gradually working back to the deltoid insertions and the area of the humeral head. The joint gradually relaxes and increased mobility becomes apparent.

Shoulder Mechanism

The conjoined tendon acts as a rotator cuff and is important in functions about the shoulder joint. The supraspinatus, infraspinatus and teres minor, contract on external rotation. The subscapularis, on the other hand, contracts on internal rotation.

Since calcified deposits are usually found close to, beneath or within the supraspinatus tendon, or occasionally beneath the subscapular tendon, sudden jars to a chronic shoulder with tendonitis calcarea may result in an acute exacerbation with extreme pain and limited mobility.

SUB-DELTOID AND SUBACROMIAL BURSITIS

	Case	Age and Sex	Duration	Areas Irradiated	No. Of Roentgens In Air	Results Of X ray Therapy
1.	J. D.	57- F	1½ Yrs.	Left shoulder, ant. and post.	1000 r	Calcification diminished in size Mobility increased. Pain in shoulder gone
2.	H.K.	38- F	18 Mo.	Right Shoulder, ant. and post.	800 r	Calcification decreased. Pain and tenderness on motion disappeared.
3.	L.K.	50-M	2 Weeks	Left shoulder, ant. and post.	1100 r	Calcification gone. Pain and tenderness disappeared.
4.	M.C.	44- F	7 Weeks	Left shoulder, ant. and post.	1400 r	Calcification gone. Mobility increased. Pain and tenderness disappeared.
5.	C. P.	52-M	15 Mo.	Left shoulder, ant. and post.	1200 r	Mobility increased. Pain and tenderness gone.
6.	S.W.	44-M	2½ Yrs.	Right Shoulder, ant. and post.	1100 r	Calcifications slightly lessened. Pain gone. Mobility increased.
7.	M.S	66- F	1½ Yrs.	Left shoulder, ant. and post.	900 r	Mobility increased. Pain and tenderness gone.
8.	N.E.	34- F	1 Yr.	Left shoulder, ant. and post.	800 r	Radicular pains down arm decreased.
9.	C.R.	35-M	8 Mo.	Left shoulder, ant. and post.	800 r	Calcification diminished. Pains gone.
10.	A.H.	34-M	7 Mo.	Left shoulder, ant. and post.	900 r	Radicular pains down left arm gone.

Roentgen Therapy In Bursitis

X ray therapy is recommended until complete mobility has been restored. This is usually accomplished in about eight to ten treatments of 100 r. each, in air, 50 cms. distance with a filtration factor of .5 mm. Cu. 1 mm. Al. using 180 Kvp. Three hundred roentgens are applied anteriorly, three hundred posteriorly and 200-300 roentgens are applied laterally.

Our acute and subacute cases responded very quickly; with alleviation of pain and increased mobility occurring after 300 roentgens were given. The chronic cases had to have 800 to 1000 roentgens before the pain was reduced appreciably or mobility

increased. In our acute cases we advise our patients that the first two treatments might cause an increase in pain. If the pain is severe, and it usually is so in acute cases, we generally expose the patient to three daily doses of 100 r. each (until 300 r. are given) and then space our treatments to three times a week until a total of 800 to 1000 r. have been given. Pain is, as a rule, relieved after the second or third treatment. The marked limitation in motion is also mitigated.

In chronic cases, a higher total dose of 1200 to 1400 r. may have to be given. In view of the fact that much more damage has occurred to the bursa, the improvement here is usually slow but steady. However, a definite improvement is observed.

Bursal Deposits

In acute cases, we have observed a complete disappearance of deposits in a majority of instances. However, there appears to be no definite relationship between the disappearance of symptoms in relation to the lessening of deposits. Nor, as previously stated, is there any relationship between the amount of calcium present and the extent of the physical signs. Many cases with no deposits whatsoever have severe pain and disability.

Differential Diagnosis

Osteo-arthritis of cervical vertebrae involving the brachial plexus must be ruled out. X rays of the cervical and dorsal vertebrae may lead us to the solution of the problem. Pains radiating down the shoulders in these cases emanate from the cervical spine. Deep x ray therapy for arthritis of the cervical vertebrae is described elsewhere in this paper.

It should be noted that good skin resistance is essential for the treatment of acute pains about the shoulder or for arthritis of the spine. If skin reactions occur before our therapeutic response to the rays becomes effective, treatment must usually be interrupted or curtailed.

With this in view, we have been persistent in the use of "Rayderm"* before and after x ray therapy. Control studies have proven that in the fair and hypersensitive skins, "Rayderm" tends to soften, protect and counteract the dryness usually encountered during and after roentgen therapy. We prescribe daily applications of this product for as long as six months after our x ray therapy has terminated.

Osteo-Arthritis—Summary

1. Twenty-five cases of arthritis—3 cases showed no improvement, 2 of these due to foci of infection and 1 of these due to faulty posture.

2. Fifteen cases of bursitis—2 cases showed no improvement, 1 of these had previous surgical treatment and 1 of these due to accompanying acromioclavicular separation.

* Rayderm Ointment is supplied by the Velvet Pharmaceutical Products Co., Inc. of New York, N. Y.

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390 Merrick Road

COMPLICATIONS OF OBESITY WITH SPECIAL REFERENCE TO HIGH BLOOD PRESSURE

Report on 125 Cases

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In the case of a patient past the age of thirty, who presents a case of prolonged obesity complicated by arterial hypertension, the chances are that the obesity is etiologically related to the hypertension. Effect a substantial reduction in the weight of the patient, and if the blood pressure has dropped substantially, it was evidently the result of obesity. However, in oldstanding obesity, the sequential arterial hypertension may persist in a varying degree despite success in the weight reduction; the cardiovascular system having undergone permanent damage. As an introduction, let us comment on the *general* effects of obesity.

Advantages (?) of Overweight

The incidence of digestive disturbances, tuberculosis and mental disease is said to be less common among the obese. The greatest asserted advantage is the good-naturedness of the fat person. As Shakespeare puts it:

> "Let me have men about me that are fat,
> Sleek headed men, and such as sleep o'nights.
> Yon Cassius has a lean and hungry look;
> He thinks too much; such men are dangerous."

Fatty tissue in normal amount is an important part of our anatomy. Fifteen percent of the average

person's weight is fat. It is situated chiefly under the skin where it helps maintain and regulate the body temperature; it protects us against excess heat in summer and great loss of body heat in winter. The surface fat serves to protect us against moderate body impacts which would otherwise injure the more delicate tissues beneath. In the filling of hollows and rounding of angles, normal fat is the moulder of beauty of face and figure. It supplies the pads between the abdominal organs and helps to keep them in place. Considerable loss of abdominal fat may result in floating kidneys, frequently present in formerly normal young women who have become reduction addicts unwisely. Finally, the normal fat supply represents a reserve of food and energy storage. In the event of an emergency situation in which there is little or no available food supply, it is estimated that ninety percent of the energy required to keep a man alive is supplied by the stored fat. Provided water is available, the average well-nourished man can remain alive under emergency starvation conditions for thirty to fifty days, thanks to his stored fat.

Disadvantages of Obesity

The disadvantages of obesity depend upon the age and sex of the individual, the degree of obesity and its duration. Youngsters are not as susceptible to the diseases occasioned by overweight as are adults. However, the patient can be hurt psychologically by the appellation "fatty". This results in resentment, a sense of inferiority and a maladjusted personality which may lead to nervous nibbling and corpulency continued into adult life.

Sex plays its role. The fat female is fortunate when her menstrual function and fertility are unimpaired. The greater the excess adipose tissue, the less likely the occurrence of normal menstrual function and of motherhood, until, in the event of forty or fifty pounds or more of excess weight, menstruation may be deferred, irregular or absent for months or years, with little prospect of fertility.

There need be little concern when, for example, a young mother has gained twenty or thirty pounds as a sequel to childbirth. This excess is usually transient, to disappear spontaneously or respond promptly to moderate dietary restriction. The same can be said of the convalescent from acute illness, who may experience a moderate gain because of temporarily enforced inactivity. However, the habitual glutton who weighs forty to one-hundred or more pounds in excess and who has been in this paradise of "eats" for years, is a potential invalid.

Diabetes

Joslin (1), has this to say on the obesity-diabetes relationship: "The chief constitutional feature in the onset of diabetes is overweight. Among 4,599 (diabetic) patients, 78.5 percent of the males and 83.3 percent of the females were overweight at the time of their maximal weight. In contrast with these figures, only 7.9 percent of the men and 6.3 percent of the women had always been underweight." There is an alarming increase of obesity cases in this country, with increased incidence of diabetes in almost parallel degree. It would appear that the best preventive of diabetes is the avoidance of overweight.

Cardiovascular Complications

Beall (2), points out that for every twenty pounds of surplus weight the heart must pump through twelve miles of extra blood vessels. Thus the circulatory system is tremendously over-burdened by the added vascularity, the weight of the adipose tissue, and the fatty infiltration in and about the heart muscle. In advanced cases, palpitation, dyspnea, cardiac asthma and signs and symptoms of definite myocardial damage often develop. This is accentuated by the presence of a complicating high blood pressure.

While the juvenile and occasional adult case of obesity is accompanied by normal or low blood pressure, the long term tendency in chronic overweight is toward arterial hypertension and its consequences.

Other Complications of Obesity

Related to the heart and blood pressure problems in rather obese individuals are the nephroses. These may complete a series of vicious circles which, in severe cases, terminate in circulatory decompensation.

Gallbladder diseases, both inflammation and calculi, are more prevalent in overweight persons. This is often responsible for occasional attacks of so-called acute indigestion.

Undue difficulties and risks during operations are often encountered in the obese. Moreover, fat people do not recover as promptly from such infections as influenza and pneumonia as do those with normal weight. Varicose veins, hemorrhoids and hernia are also among the miscellaneous incidents encountered.

The retention of accumulated adipose tissue about the chest, abdomen and hips often results in skeletal and postural abnomalities, amounting to definite diseases of the bones and joints. Often the first result of top-heaviness is painful, flat feet. Next, the ankle and knee joints become involved as arthritis develops. Sooner or later the hip joints may begin to ache as a consequence of sacroiliac arthritis. The spine is not immune to involvement under the circumstances, accounting for the frequency of backache. In the event of fifty or more pounds excess of weight, the individual is easily fatigued and incapacitated. This, in turn, affects the personality.

Life Expectancy

The supreme cost of indifference to overweight is reduction of life expectancy. Means (3), rightly regards excess fat as parasitic. Life insurance companies point out that the percent ratio of actual to expectant death of overweight men and women increases proportionately to each ten pounds of overweight. If accepted, the fat person applying for

life insurance must pay a higher rate because of the extra risk involved. There are more life insurance rejections for obesity than for any other malady in medicine. Dublin and Lotka (4), point out that twenty-five pounds of extra weight occurring between the ages of forty-five and fifty, reduces life expectancy by twenty-five percent. A man or woman of fifty, weighing fifty pounds excess has about half the expectation of life as compared to an individual of the same age with normal weight. "The excess mortality increases with the degree of overweight. Those with twenty percent overweight show mortality approximately one-third higher than average; those with fifty percent overweight show mortality practically double that for average weight. The contrast, especially after midlife, is greater if comparison is made with underweight men, whose mortality is even lower than that of average weight men." (5)

Results in Our Series Of Hypertension

Of our series of over 900 cases of adult obesity, 125 presented a complicating arterial hypertension. All were past thirty years of age; 78 patients (62 percent) were past the age of forty. In 97 of these, the blood pressure was satisfactorily controlled by substantial weight reduction.

The term obesity was applied to a weight of twenty or more pounds in excess of the ideal for age, sex, height, and body configuration. The term "arterial hypertension" implied the existence of a systolic blood pressure above 150 m.m. with a corresponding diastolic pressure.

Case Histories

The following condensed case histories taken from our files are typical examples of obesity, complicated by arterial hypertension:

CASE I.—A man, single, aged thirty-three, occupied in a garage office, was sixty-eight inches tall, and weighed three-hundred and fifty pounds. His chief complaints were overweight, swollen, painful ankles, and fatigability. He claimed that he had been stout as far back as memory recalled. Clinical study yielded a diagnosis of thyro-pituitary obesity with an undetermined component of the exogenous factor, complicated by arterial hypertension. The blood pressure was 168/110. Efforts at weight reduction were largely successful and accompanied by reduction of the blood pressure. In two months there was a drop of forty-six pounds in weight and a reduction in blood pressure to 150/110. Two months thereafter there was a drop of only eight additional pounds, with a further reduction in blood pressure to 140/80. In two additional months there was a further drop of fifteen pounds, with a reduction in blood pressure to 135/85. Two months later progress appeared arrested; instead of a reduction, there was an increase of weight by two pounds, but the blood pressure dropped to a new low of 130/80. At this writing (10 months from the initial study), the weight is 269 pounds, a total drop of eighty-one pounds. The blood pressure has been varying between 130/80 and 140/90. The patient feels quite normal and hopes to reduce his weight to a figure close to 180 pounds, his scheduled ideal. Judging from the past cooperative spirit, continued dietary and medicinal effort in combination with practical psychotherapy will probably succeed in its objective.

CASE II.—A housewife, aged fifty, height sixty-three inches, weight 168 pounds, complained of shortness of breath, "pressure in the throat", overweight, nervousness and fatigability, all of about eight years' duration. Clinical study yielded a diagnosis of moderate obesity of alimentary etiology, complicated by a developing arterial hypertension. The blood pressure was 180/110. In the course of five months of attention the weight was reduced by twenty-four pounds to 144, and the blood pressure was established at approximately 135/80.

CASE III.—A housewife, age forty-four, height sixty-two inches, weighed 213¾ pounds. Her chief complaints were obesity, palpitation and excessive perspiration, all of about ten years' duration. The diagnosis was alimentary obesity with evidences of anterior pituitary underfunction, complicated by arterial hypertension. The blood pressure was 195/120. Efforts at weight reduction were hampered by the infrequency of the patient's visits to the doctor; nevertheless, fair results were achieved. Within four months there was a drop of thirty-one pounds in weight, with a lowering of the blood pressure to 145/90. The patient is still under infrequent observation and is slowly approaching her objective in weight and blood pressure.

CASE IV.—A housewife, age fifty, height sixty-four and a half inches, weight 229 pounds, complained of overweight, nervousness, fatigability, aches in the knees, and palpitation, all of about eight years' duration. Clinical study yielded a diagnosis of alimentary obesity complicated by moderate arterial hypertension. The blood pressure was 160/100. Within six months of treatment the patient became symptom-free. The weight was reduced by fifty-nine pounds and the blood pressure dropped to 140/90. The patient is still under attention for further weight reduction.

CASE V.—A graduate nurse, single, aged forty-five, height sixty and a half inches, weight 240¾ pounds, complained of obesity, rapid heart, weakness, swollen ankles, palpitation, shortness of breath and nervousness, all of about ten years' duration. Clinical study yielded a diagnosis of alimentary obesity with a questionable pituitary component, complicated by arterial hypertension. The blood pressure was 220/110. Within ten months of attention the weight was reduced by seventy and three-quarter pounds to 170 and the blood pressure was reduced to 130/80. The facial changes and folds of inelastic skin at the upper arms and the aprons of skin over the abdomen and hips, rendered further weight reduction cosmetically impracticable.

CASE VI.—A housewife, aged fifty-one, height sixty-four inches, weight 304 pounds, complained of overweight, sleeplessness, swelling of the ankles,

shortness of breath and weakness, all of about fifteen years' duration. The diagnosis as the result of clinical study was obesity of alimentary etiology, complicated by arterial hypertension. The blood pressure was 180/110. Within a year of attention the weight was reduced by sixty pounds, which was followed by the establishment of the blood pressure at approximately 120/80. The patient is still under a moderate weight reduction regime.

The following case history is exceptionally interesting for these reasons: 1. because of the extreme obesity, 2. the development of arterial hypertension before the age of thirty-two, 3. the ease with which the patient reduced by 131 pounds, and 4. the clearing up of the hypertension concomitantly with the weight reduction.

CASE VII.—A business man, married, aged thirty-two, height seventy-three inches, weight *over* 400 *pounds,* complained of shortness of breath, excessive perspiration and palpitation. He weighed eighteen pounds at birth and claimed that he had been fat as far back as he could recall. The patient was addicted to the fingernail biting habit since childhood. The tonsils were markedly congested and enlarged. Six years ago he had lost eighty pounds under his doctor's supervision but has since regained this weight and has been unable to control his food intake. His dietary habits were characterized by excesses in rich foods and in fluids. He ate meat two or three times a day, drank four or five cups of tea or coffee and five or six bottles of soda daily. At bed time it was his custom to consume about two quarts of root beer or one quart of ice cream. Clinical study resulted in a diagnosis of pituitary obesity in which the alimentary factor played a major role. The blood pressure was 160/115. The basal metabolic rate was plus 30 percent; this was not regarded as a thyroid factor, but due to the tremendous increase of square inch of skin surface. As the result of intensive psychotherapy from the start, cooperation was largely satisfactory. On a 1300 calorie diet and appropriate medication, this unusually stout patient responded with unusual promptness. Within five weeks there was a drop of fifty-three pounds and a lowering of the blood pressure to 140/90. Within three months there was a total loss of one-hundred pounds and the blood pressure was reduced to 120/80, at which figure it became established. Within a period of a little over five months, the weight reached 269 pounds—a total reduction by one-hundred and thirty-one pounds, with a corresponding increase in the sense of well-being and disappearance of his primary chief complaints—especially the palpitation and the shortness of breath. At this point, with about seventy pounds yet required to reach the approximate goal the patient decided to assume personal responsibility in the further management of his case.

It was recently pointed out that "transient hypertension or transient tachycardia or overweight, each by itself, increases the probability of the later development of sustained hypertension and of cardiovascular renal disease. The presence of two of these conditions is of greater importance in this respect, than any one alone. The presence of all three is a circumstance of major prognostic significance." (6)

Summary

In a series of over 900 cases of adult obesity, 125 presented a complicating arterial hypertension. In 97 of these cases, all past thirty years of age, the hypertension improved satisfactorily following partial or complete reduction of the weight to normal.

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CHRONIC VASOMOTOR RHINITIS IN PREGNANCY*†

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It is now generally agreed that pregnancy is associated with an altered state of physiology, but it is not always appreciated just how extensive this alteration is in the functioning of the various organs of the pregnant woman. Stander (1), states: "It should be constantly borne in mind that pregnancy is not a mere local condition affecting the genitalia, but is a process associated with fundamental changes in the entire organism."

For many years it has been recognized that a relationship existed between nasal physiology and the activity of the reproductive organs. In 1918 Siegmund (2), described more or less characteristic

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reddening and thickening of certain areas in the nasal mucosa of pregnant women. Other changes have been described in the larynx. The author now wishes to focus attention on the frequent occurrence of chronic vasomotor rhinitis in pregnancy.

Etiology

The exact etiology of vasomotor rhinitis is not known. In many individuals allergy plays a major role. In a much larger group, however, no specific allergen can be demonstrated as the offending agent. The cases which are secondary to pregnancy fall into this second group.

In these individuals there is a hyper-irritability of the autonomic nervous system, probably secondary to the increased blood concentration of hormonal products resulting from pregnancy. The result is a paresis of the smooth muscle of the turbinal cavernous tissues with resultant swelling of the turbinates. The greatest involvement is of the lower turbinates, with only minimal involvement of the middle and superior turbinates. The mucosa itself is often edematous and congested.

No detailed information is available to allow an accurate estimate of the incidence of chronic vasomotor rhinitis in pregnancy. However, it is safe to state that a large number of pregnant women have some symptoms of nasal obstruction. In some, the symptoms are more annoying than in others, and in a small percentage of the cases the condition becomes a serious problem to both the obstetrician and the otolaryngologist. It is more often seen in the latter half of pregnancy and usually persists until sometime after delivery.

Symptomatology and Diagnosis

The universal complaint is difficulty in breathing through the nose. This is always worse on lying down. Not infrequently, the patients report that they are awakened a few hours after falling asleep because of nasal obstruction and cannot fall asleep again. There may be an associated mucus discharge, both ante- and postnasally, but this is not always present. There may also be some sneezing due to contact of the septum and the lateral nasal wall. With persistence of the obstruction, secondary sinusitis frequently ensues and is usually persistent.

At first, relief is obtained by the local use of vasoconstrictors. Each application of the sympathetic-ogenic drugs is followed by a period of sympathetic depression, during which time the turbinates become even more turgescent than before the drug was applied. This sets up a vicious cycle, since the patient then uses the nasal spray at more frequent intervals. After a time, the patient will require increasing concentrations of the same drug or a more potent vasoconstrictor. The relief thus obtained soon becomes more transient and application of a vasoconstrictor becomes more frequent.

Ultimately the patient finds herself with almost constant nasal obstruction, which is only poorly and transiently relieved by nose drops, and she is in a state of "nervousness" from the constitutional effects of the absorbed sympatheticogenic vasoconstrictor drugs. The more "high strung" the individual is normally, the more serious will be the symptoms. In fact, the author has seen one patient abort spontaneously in two successive pregnancies because of severe chronic vasomotor rhinitis.

Treatment

The treatment of this condition has taxed the ingenuity of the otolaryngologist as well as the obstetrician. Whereas all mechanical obstructions (such as septal spurs and deflections, hypertrophied turbinates, etc.) should be removed, it is not recommended that such surgical procedures be carried out during the latter half of pregnancy unless absolutely imperative. Rather, every effort should be made towards conservatism.

The use of all vasoconstrictors must be discontinued or markedly curtailed. Mild sedation with bromides or barbiturates, and the use of atropine in small repeated doses, is very helpful. The local application of heat in the form of compresses or by exposure to the infra-red lamp or to diathermy, affords much comfort, and is often helpful in combating the secondary sinusitis when present. It may be necessary to employ chemotherapeutic measures for the sinusitis.

Many efforts have been made to reduce the size of the lower turbinates by galvanocauterization or the application of caustics. These methods, while sometimes successful, are fraught with the danger of tissue necrosis and ultimate chronic dryness of the nose. In 1940 the author began a study of the use of sclerosing agents in chronic vasomotor rhinitis, and in 1943 excellent results were reported (3), in a series of over two hundred cases treated by Sylnasol* injections. Previously Thacker (4), had published similar results with the same form of therapy.

Following submucosal injection of the sclerosing agents into the turbinates, there results a profuse fibrosis throughout the tunica propria, a diminution in the amount of mucus in the lumen of the glands without reduction in the actual number of glands, small round cell infiltration, and a reduction in the size and number of vascular sinuses (5). There has been no gross or microscopic evidence of atrophy of the tissues in any case even after observation for more than five years.

Technique of Treatment by Sclerosing Injections

Cotton pledgets saturated with 0.5 percent pontocaine solution are inserted between the lower turbinates and the septum, without prior application of a vasoconstrictor. After about five minutes, the pledgets are removed, and the Sylnasol is injected, using a 2 cc. tuberculin syringe and 23 gauge steel needle 1½ inches long. The needle is inserted beneath the mucosa on the medial aspect of the lower turbinate anteriorly and gently pushed back into the turbinate, being careful not to make a coun-

*Sylnasol is the trade name of the G. D. Searle Co. for a solution of sodium psylliate.

ter-puncture. A full 0.5 cc. of the Sylnasol solution is injected as the needle is slowly withdrawn. The opposite lower turbinate is injected in a similar manner at once. The patient almost always complains of some retrobulbar discomfort, but this is of short duration and seldom becomes intense. Occasionally slight pain is complained of in the teeth. If any of the solution drops into the pharynx as a result of accidental counter-puncture, the patient will complain of a burning sensation and may cough for a few minutes. Thereafter, the only complaint is nasal obstruction, and this is only slightly relieved by nasal sprays, so that none are prescribed. In from three to five days the reaction begins to subside, and in about a week or ten days actual shrinkage of the injected turbinates can be observed. This process requires from five to eight weeks in all, during which time the associated symptoms of sneezing or nasal drip also, in most cases, diminish markedly.

The author does not employ Sylnasol injections into the middle turbinate as chronic enlargement of this structure is usually due to actual bony hypertrophy, which is unaffected by sclerosing injections. Furthermore, injections into the middle turbinate are not without danger because of the intricate venous communications of this turbinate with the cavernous sinus.

Results

To date the author has treated over five-hundred patients with chronic vasomotor rhinitis by sclerosing therapy. Of this number, over fifty cases have been associated with, or secondary to, pregnancy.

In properly selected cases, *i.e.*, where the condition has not persisted to the point where actual bony and soft tissue hypertrophy have supervened, the results of treatment by sclerosing injections has proved uniformly satisfactory. In every instance shrinkage of the turbinates resulted and the patient was made more comfortable. There have been no complications to the injections and no sequela.

Conclusions

1. Chronic vasomotor rhinitis is a common complication of pregnancy and is probably secondary to the vasomotor instability generally present in pregnant women.

2. The condition is characterized by chronic nasal obstruction and is often complicated by sinusitis.

3. The persistent use of vasoconstrictors to alleviate the condition constitutes an abuse of the drugs in question, and may lead to aggravation of the symptoms rather than relief.

4. The condition can be satisfactorily treated by the submucosal injection of sclerosing agents into the lower turbinates.

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THERAPY IN PELVIC INFLAMMATORY DISEASE*

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The evolution of the care of pelvic infection in the female has been slow and the problems involve a study of both the causative action and the subsequent course of events.

The initial invasion may occur in any one of several events of a woman's life. Pregnancy complications and gonorrhea are particularly common in this regard, although other factors are radium insertion, cauterization of the cervix, the stem pessary, high pressure douches, infected fibroids, cervical strictures, intrauterine instrumentations and pelvic operations. Appendicitis, diverticulitis and septicemia are the extragenital conditions which may initiate the pelvic infection. The criminal abortion and puerperal infections are particularly virulent and disabling. The invading organisms in pelvic inflammatory, disease include the gonococcus. Streptococcus, Staphylococcus, Escherichia coli, tuberculosis (five percent of cases), actinomycosis and other infectors of the external genitalia, intestines and blood stream. Each invader has its characteristic method of spread, exudate and response to body defenses, but all have a common result of causing pelvic pains, fever, menstrual irregularities, dysmenorrhea, dyspareunia, backache, vaginal discharge and general incapacity in the patient. The response which follows a primary bacterial insult is dependent upon the type, number and virulence of the organisms in addition to the method of spread and the general health of the recipient. Surely many bacterial invasions of the pelvic viscera are concluded harmlessly by vigorous cellular localization in a healthy female genitalia, whereas some trivial affair may become a major hurdle for the woman who is anemic, diabetic, *postpartum* or otherwise generally debilitated. White (1), states that the invading organisms in these forms of infection do not single out the uterus, the tubes, the ovaries or the pelvic peritoneum, but initiate pelvic inflammatory changes to varying degrees in each of these structures.

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Further, pelvic responses to infection are different from the usual body responses to diseases, in that the infection quickly progresses to a subacute or a chronic form, marked by frequent exacerbations. Perhaps the greatest single factor in the promotion of this condition is the cyclic hormonal modifications initiated by the ovary on the pelvis, incident to ovulation or menstruation.

Adair (2), reports that fifty percent of the cases of chronic pelvic inflammatory disease can be relieved by temporary amenorrhea induced by low dose x ray therapy to the pelvis, repeated every two to three weeks. This relief is probably due to the cessation of tissue changes incident to ovulation and menstruation. Further, undoubtedly many of our earlier unsuccessful attempts at "conservative pelvic operations" for relief of pelvic pain in pelvic infection, owed their failure to the portions of the ovaries left behind to continue as agents of activity in a continued inflammatory process.

Again, the continued activity which follows a pelvic infection from whatever cause, results in scarring, adhesions and general tissue induration with fixation, which is the great contributor to the leading symptom of pain in these women. Cure, then, must not only end the career of the invading organisms but must also modify some of the disabling damages of this invasion.

Curtis (3), reviews the therapy in pelvic infection with remarks on the general body supportive measures (fresh air, sleep and good nutrition), rest, ice bags, diathermy, Elliott treatments, foreign protein, antistreptococcal sera and sulfonamides. Tritsch, Saxe, and Schneider (4), reported favorable results in two hundred and ninety-seven patients with pelvic inflammatory disease treated by bed rest. They felt that the addition of a sulfonamide did not give improved symptomatic and anatomic cures. All of these remedies have had varied forms of success from good to bad, depending upon the bacterial agent, virulence and extent of the infection. All too often none of these treatments have yielded satisfactory response and the woman remains a sterile, pained, menorrhagic and generally miserable being. This sad state of affairs has prompted the woman and her physician to seek operative relief. The pelvic operation may be a meddling procedure consisting of partial, complete, unilateral or bilateral salpingectomy with or without a portion of one or both ovaries or a major procedure dealing with adhesions, indurations and a general matting of the genitalia to the sigmoid, bladder and lateral pelvic walls. Bleeding is often difficult to control and large areas of denuded tissue are exposed. The flare-up of the infection either by rupture of an abscess or by reactivation of the organisms in the tissue in the face of these surgical findings, make the immediate and distant recovery rugged and not always successful. However this operative excision of pelvic inflammation is the only course of treatment in certain diseases such as tuberculosis, actinomycosis and selected forms of extensive disease regardless of the extent or sequelae.

The author's own failures in the operative treatment of these disorders have gradually helped him formulate an opinion that if pelvic surgery is indicated at all for pelvic infection, then complete excision of the ovaries, tubes and perhaps uterus is indicated rather than the lesser procedures. This is indeed a high price to pay for these conditions and therefore we welcome any medical modifications in the treatment of pelvic infections.

Penicillin in Pelvic Infection

Penicillin has been used with success in sulfa resistant gonorrheal infection in the female by Sternberg (5), Greenblatt (6), and Cohn (7), and the same drug is advised by Fleming (8), for pelvic cellulitis and salpingo-oophoritis. He recommends the intramuscular route, either by injections every three hours or by continuous drip for seven days. Mallory, Castleman and Possis (9), report improvement in a case of pelvic inflammatory disease after twelve days of intramuscular penicillin therapy with a total of 96,000 units given. Their case had subsequent pelvic exploration with culture of Staphylococcus aureus and non-hemolytic streptococci. Lee (10), reports success in the treatment of eleven cases of pelvic inflammatory disease with penicillin (these cases are included in this report). Jones (11), reported the use of penicillin in thirty cases of non-veneral acute pelvic inflammatory disease with success and he believes penicillin greatly reduces the incidence of pelvic abscess and the necessity for surgical drainage. Marvil (12), reported no improvement in fifteen cases similarly treated.

The author has treated thirty-three cases of pelvic inflammatory disease with penicillin. This series included women who varied in age from eighteen years to forty-two years. There was one single woman in this group of private patients. Sixteen were multipara, and the greatest number of children of any one woman was three. There were ten examples of single pregnancy sterility.

Two cases followed full term normal deliveries. One case followed a spontaneous miscarriage with currettment and one case followed a criminal abortion. Gonorrhea was the stated proved etiology of one case and there were thirteen examples of pelvic inflammatory disease after pelvic operations. The reported previous operative findings were tubal pregnancy, tubal infection, pelvic abscess, infected cervix, diffuse pelvic peritonitis, uterine fibramyoma, ovarian cyst, adhesions and "pus pockets". Five of these women had had an appendectomy along with their pelvic operations and one woman also had had a cholecystectomy. In fourteen cases, the etiology of the infection was unknown and the patients presented themselves because of pelvic pains, menstrual irregularities, vaginal discharge, fever or sterility.

There was no evidence of gonococcus on cervical smears and the temperature readings recorded by the patients three times daily for one week before treatment ranged from 97.8 to 103° F. Most cases were previously unaware of their fever. The blood

sedimentation rates ranged from 18mm/hr. to 118 mm/hr. Seventeen of the thirty-three cases had previously taken some form of a sulfonamide.

The penicillin used in this series of thirty-three cases was given intramuscularly in divided doses. The water soluble sodium salt was given in twenty-eight cases and of these nineteen had doses of 25,000 units three times daily, seven had doses of 25,000 units every three hours during the day while in the hospital and two had doses of 50,000 units twice daily. Six patients had the single daily dose of 300,000 units in oil (Squibb). The course of treatments was from five to eight days and the usual duration was six days.

Nineteen of these women were taught self-administration of their therapy and only three of the seven hospital admissions were primarily for therapy. The remaining four were discovered in the course of hospital examinations and investigations or found in consultation.

Twenty-nine of these women received good clinical results with penicillin, with relief of pelvic pains and other complaints. Two women had no relief but one of these became better after a month of limited activity and warm douches. One woman was only slightly relieved after her treatment but she leads a very active home and social life which she refuses to moderate. In one incident, the patient was relieved of the sharp pelvic pains which brought her to the office but she subsequently needed a pelvic operation for pressure from ovarian cyst. Three women became pregnant after their treatment. One of these had presented herself as a sterility problem and the other two had not been able to become pregnant following their first delivery although contraceptives were not used.

The five repeat series of penicillin given were for two of the above failures and three who were given a three day series for recurrence of symptoms; the repeat series met with success. There were no cases of penicillin sensitivity.

Improvement was usually noticed in about thirty-six hours but the greatest relief followed the series of treatments by several days. It was felt that the water soluble sodium salt penicillin given in doses of 25,000 units three times daily gave somewhat quicker relief.

Even though penicillin could not possibly effect the scarring, adhesions and general fixations associated with pelvic inflammatory disease, in twenty-four cases the adnexal masses and indurations were decreased following therapy. Nine cases had essentially the same adnexal situation following the penicillin as before and three of these were the failures reported above.

The cure of pelvic inflammatory disease should, as previously stated, improve the scars of the disease which penicillin does not do, but if this drug can stop or otherwise make the infection impotent, the author feels that its use is justified and indicated. At least, the crippling symptoms of pain and partial incapacity were relieved with the use of intramuscular penicillin in this series and the author recommends the addition of this treatment in pelvic inflammatory disease.

Summary

1. The cause and therapy of pelvic inflammatory disease is reviewed.

2. Thirty-three cases of pelvic inflammatory disease were treated with intramuscular penicillin and twenty-nine showed clinical improvement.

3. Penicillin will not improve the scars of pelvic inflammatory disease but the adnexal masses and indurations were decreased in twenty-four of the thirty-three cases treated.

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1115 Boylston at Seneca.

LOCAL REACTION FOLLOWING THE INITIAL ADMINISTRATION OF PENICILLIN IN BEESWAX AND OIL: TREATMENT WITH BENADRYL

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There have been several cases reported in the literature of local reactions following the administration of penicillin. Lederman (1), reported a local reaction to the Romansky formula after ten injections of 300,000 U in beeswax and oil, manifested by heat, redness, and induration. There were no fever, chills or malaise. The following case report is that of an acute local reaction, occuring one week after one intramuscular injection of penicillin in beeswax and oil, (300,000 U/cc, Romansky

formula), in a child fourteen months old. The child had not been previously exposed to the Romansky formula. Kolodny and Denhoff (2), studying reactions in patients receiving sodium penicillin, found that in a series of consistent reactors, "a phase of relative energy existed for five to seven days". There was no correlation between allergic family and personal histories and the incidence of reaction.

Report of a Case

Baby G. H., fourteen months old, suddenly became feverish, irritable and vomited several times. The fever varied from 102-104 degrees F., rectal. There was no diarrhea, and no labored respirations. Physical examination revealed enlarged, moist-looking, non-cryptic, tonsils and a fiery-red pharynx. Coco-Diazine was prescribed, 5 grains of sulfadiazine every four hours, but the child failed to respond. Penicillin lozenges, 1000 U, were given hourly with little effect. An injection of 300,000 U of penicillin in one cc. of beeswax and oil (Romansky) was given into the muscles of the outer superior quadrant of the left buttock; twenty-four hours later the child was afebrile, taking nourishment, and the tonsils and pharynx were normal in appearance. One week later the mother stated that there was a hard, hot, reddened, swollen area about the site of the penicillin injection. Physical examination revealed a large indurated, red, hot area approximately 3 x 3 cm., about the recent injection site. The induration was board-like and painful. The temperature was 100.2 degrees F., rectal. The child was inactive and irritable. There was no abrupt demarcation between the indurated, red area and the healthy tissue. Cold applications were advised. There was little remission in the findings after four days. Elixir of Benadryl was given on the fifth day in an initial dose of 10 mg. and 5 mg. every four hours thereafter. The following day some redness had disappeared, the area was less painful, the induration less board-like, and the lesion was smaller in size. The child was active and readily accepted the Elixir of Benadryl with no evidence of side-reactions.

Lederman (1), reported partial involution of the reactant areas after two months. The above report suggests that Benadryl may aid in shortening the involution of the affected area.

Summary

1. A case of severe local reaction following one injection of penicillin in beeswax and oil (Romansky formula, 300,000 U/cc.), involving the skin and deep tissues of the left buttock of a fourteen month old child is described.

2. This reaction occurred one week after the initial and only injection.

3. Resolution seemed to be aided by Elixir of Benadryl.

4. The question arises whether the child was sensitive to the beeswax the oil, an impurity in the penicillin or to the penicillin itself? Could the child have been sensitized by oral penicillin?

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Streptomycin in Tuberculosis

In response to inquiries from the public about the value of streptomycin in the treatment of tuberculosis, Dr. J. Burns Amberson, visiting physician-in-charge, Chest Service, Bellevue Hospital, and chairman of the executive committee of the New York Tuberculosis and Health Association, recently issued the following evaluation of the drug and a warning:

"The new antibiotic drug, streptomycin, is the first to show any significant beneficial effects in the treatment of certain types of tuberculosis. However, much additional research is needed to determine its field of usefulness and the extent of its disadvantages.

"Experience thus far indicates that streptomycin has little, if any, influence in cases of pulmonary tuberculosis, except possibly those which are very acute and of recent origin. In other forms of tuberculosis which ordinarily prove fatal, including tuberculosis meningitis and acute generalized miliary tuberculosis, streptomycin has shown some striking effects. In some cases the effects have been lasting, but in others, only temporary. In such cases the administration of the drug must be carried out in a hospital where proper clinical and laboratory controls are available.

"Streptomycin is not without disadvantages and actual danger from toxic effects. These effects are still being studied intensively and it is hoped that a sure way may be found to avoid harm from using this drug, or that a new and better antibiotic drug may become available.

"Patients are urged not to rely on streptomycin in place of standard rest treatment and other accepted treatments for tuberculosis. Streptomycin may be of help in carefully selected cases but it is expected that a lengthy period of rest treatment will be necessary nevertheless.

"The American Trudeau Society, medical section of the National Tuberculosis Association, at the request of the Civilian Production Administration, received a limited supply of the drug from pharmaceutical manufacturers which has been allocated to certain investigators for further clinical study."

Editorials

Dean Rappleye on Present Trends in Medical Care

In his recent report on the School of Medicine to the acting president of Columbia University, dated June 30th 1946, Dean Willard C. Rappleye, discourses at length and with great wisdom on the trends to be found today in what may be called "social medicine" instead of socialized medicine. While the two are, in a sense, interdependent, they are in reality quite different. Social medicine has to do with the prevention and treatment of disease as applied to every individual citizen; while socialized medicine concerns itself more with the method of so doing, and, in general, insists upon governmental control of every phase of the subject including medical personnel.

Dr. Rappleye sees medicine today in a stage of rapid evolution, not only from the scientific side where advances are becoming an almost daily occurence, but there is an awakening of great public conscience and interest in the health and vigor of every individual. Complete medical service can no longer be rendered by one general practitioner; therefore, the tendency to specialization. This however, limits the scope of the personal health problem too minutely. After all, the body must be considered as a whole, and if one organ becomes diseased, the entire chain or system is thrown out of focus. The logical outcome, therefore, is a study of each and every organ by various specialists, and then to integrate all of the findings so that a plan of management of individual needs may be set up. This is, of course, not possible where an emergency operation for appendicitis, for example, becomes immediate. Operation must come first; then study of the patient during convalescence or shortly after health is regained. The natural and effective deduction is group practice. This is no new thing in America since it was set up by the Mayos nearly fifty years ago and has worked well where an organization was sufficiently detailed and managed.

Undergraduate students (fourth year men) are indoctrinated at Vanderbilt Clinic in group practice. They are set to work on history taking in all of its relations, including the home background. Then they sit with each consultant in turn, get his reaction, and follow through the summation of all the facts both clinical and laboratory. Thus patients, students and consultants all benefit by this coordinated service. They come to know the value of comprehensive rather than limited medical care, and also the importance of preventive as well as curative and restorative procedures.

Moreover, a well-organized out-patient service may serve to offset expensive, extravagant in-service until the latter becomes imperative. Now the group, working as an OPD outfit but with all facilities in ready reserve, becomes most effective; for here doctors, nurses, dentists, technical aids, laboratory workers, executives, and the ambulatory patients meet on a common ground for study, while the patient still remains at work if he is not to ill. The one drawback is the time consumed in visits to and fro, reception room time; and the delays necessitated while waiting for reports on serology, x ray etc.

Group practice in hospitals will influence the distribution of physicians. A vigorous, highly educated young doctor does not care to waste himself in the wilds of prairie practice, but if he can join a group in a town where he may practice in a hospital, he will find outlet for his energy and enthusiasm. There is one doctor to every seven hundred fifty persons in these United States, a very high ratio in comparison with other countries. Therefore, we scarcely need more physicians, but we do need better distribution of them. In these days of fine roads and automobiles, it is fairly easy, even for a seriously ill patient, to travel fifty miles or more to a medical-group-center. Thus the need for night visits to homes may well be reduced. At best, house visits are often unsatisfactory to physician and patient alike.

Dean Rappleye states that "The greatest waste of medical manpower . . . is during the five to ten years after completion of hospital training." He refers to the long waiting period when only a small part of the doctor's time is used. This loss scarcely occurs in group practice where patients visit with great confidence.

The *kind* of medical practice has changed over the past quarter century. We see fewer contagious diseases in children and young adults; for example, typhoid, diphtheria, smallpox and

gastroenteric infections. Formerly the mortality from these was enormous, but now they are more nearly under control. Our efforts must be directed toward the middle aged and those past sixty because of the lengthening span of human life, and the disorders peculiar to advancing years. Rehabilitation of the handicapped through vocational, psychological, educational and medical treatment is becoming the call of the day.

Insurance against sickness is a group concept; therefore, prevention becomes of paramount importance to the "underwriter". The Dean is puzzled by the eagerness of certain medical groups to go into the insurance business since commercial concerns already have this well in hand. The cash indemnity business, he says, may be left to commercial companies.

"The country needs wise, courageous leaders in medicine, cooperating with industry, labor, and the public to meet the health needs of the country and avoid the errors and mistakes of other health service programs such as have been developed in the last sixty years in Europe." In America, the medical profession can guide and direct all matters incident to its skill and knowledge. However, in economics and in the sociological aspects of medicine, doctors are not always well qualified, and they, in turn may need the help of "lay experts" in such matters. We need not relinquish our hold on the patient provided we can give the service he is seeking. The time has come when the rugged individualist in medicine can no longer depend on an attitude, be it log cabin gruffness or parlor smoothness. We must learn the causes of a disturbed physiology, then apply the necessary and effective agents for relief. This can best be done by a medical group.

Campaign Against Cancer in Britain

It is a trite remark to say that cancer is a universal disease, but it is most prevalent in civilized countries. As Britain is among the civilized communities, the disease flourishes there and the situation from all points of view is instructive. It is needless to say that a campaign against malignant disease has been waged strenuously and as scientifically as possible for many years.

Research into its cause or causes, as it is probably of multiplex origin, has been carried on persistently with the aid of all known resources by men adapted by special gifts and experience for the task. While the original cause or causes has, or have, eluded detection, many salient features in this direction have been discovered or rendered clearer by the light thus thrown upon them.

The annual meeting of the British Empire Campaign was held in London on December 19, 1946, under the chairmanship of Viscount Harlsham. The report of the campaign is the twenty-third of a consecutive series, recording about twenty-five years of a century's progress in cancer research. Sir Stanford Cade, in moving the adoption of the report, said in part that the campaign correlated controlled research held by individual workers in recognized centers, disseminated knowledge and helped to destroy the fear of cancer. To further such aims, a *British Journal of Cancer* is soon to be published. The speaker went on to point out that the best yardstick of progress was that of mortality. Deaths from cancer in accessible sites have decreased, while in others the peak of the rise has not yet been reached. Some might think, he added, that cancer research is about to become a state responsibility, but in his opinion, nothing was further from the truth. Pioneer and research work would still rely on the efforts of industrial workers and further progress would still depend on these workers.

Treatment of a malignant disease in accessible sites is effective by operative measures. The situation as regards cancer is similar in many respects in this country to that in Britain. Research into its cause or causes has been progressive, and many unknown points have been unearthed; treatment has been conducted along the same lines. A final solution of the cancer problem appears nearer, and the hope is engendered that the work of those who have given their time, brain power and energy to the endeavor to remove this scourge, or at least to mitigate its effects, may be crowned with success.

* * *

Urticaria pigmentosa was described by Nettleship in 1869 as "chronic urticaria leaving stains". The name was given by Sangster in 1879, but the disease is known as *Nettleship's disease.*

* * *

Paxton's disease, or leptothrix, was described in 1869; the disease was named by Erasmus Wilson.

THE BEGINNINGS OF SOVIET MEDICINE

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The old, Czarist regime was breathing its last, yet even its final days were characterized by extreme misery and human suffering. The living conditions of the workers both in the city and in the country were vile. The police had put into force various restrictive measures which bound one hand and foot. Public activity was restricted. One could not open his mouth to protest lest he be bundled off to Siberia.

The laborers and peasants were hardly regarded as human beings with human desires and feelings. The rich land owners and industrialists exploited them to the fullest. The general cultural level of the population was low and it was kept low, for thinking and reading always led to trouble. Hygienic conditions were bad and diseases were epidemic.

The medical profession, during the dark days of the last Czar, was in a rather sorry state. They were unequipped to combat the epidemic diseases which were becoming altogether too frequent. There were too few doctors, too few medical dispensaries and too few hospitals. In fact, many large cities and even provinces were totally lacking in physicians and medical supplies. Large territories which now form the autonomous republics of Kirghizia, Chuvashia and Uzbekistan, were left without doctors. Hygienic conditions were extremely bad. Superstition and ignorance helped the spread of disease, especially infectious diseases. The annual toll of lives was in the millions.

Statistics may be significant, but they make boring reading. It is sufficient to say that of all diseases, one fourth were directly due to poor economic and living conditions. Lack of knowledge, lack of proper equipment and lack of sanitary precautions caused typhus and typhoid fever to rage throughout the vast territories and kill a half million people in the short space of a decade. At the same time, small pox claimed its hundreds of thousands of lives. Plague epidemics were rather common. The records say that millions of lives were snuffed out by diseases which could have been prevented by the application of even a few sanitary rules. There is no doubt that the number who suffered and died was much greater, and the peasants would not bother to seek medical aid, since the nearest medical station was usually some twenty miles away, and twenty miles is a long distance to walk, especially when you have a raging fever.

Shameful is the story of Czarist Russia, shameful in the medical history of mankind. Trachoma, an epidemic eye disease, was so widespread that it blinded hundreds of thousands needlessly, because a few simple hygienic rules would have enabled them to retain their sight. Czarist Russia had the dubious distinction of leading the world in the number of blind persons. Human life was cheap; it was sacrificed for trifles. Stupidity, superstition and ignorance, maimed, crippled and killed. The common man was dirt under the feet of the affluent.

As an example of what superstition and ignorance can do in the spread of disease and suffering, consider the spread of syphilis through nonsexual contact, such as kissing, eating from a common dish or nursing children. Whole villages, districts and provinces were affected by this disease. It was as common as a cold. So widespread were the effects of this disease that many villages in the Russia of the Little Father were known as *Kurnos ovka* (snub-nose). Snub-nose is a common characteristic of the ravages of syphilis. It causes the bridge of the nose to collapse, giving the nose a snub-like appearance. This is a common characteristic of the third stage of the disease of untreated syphilis, neglected and allowed to spread, to infect, to maim, to cripple and to kill. In the cities, syphilis constituted 35 percent of all diseases, while in the country, a high of 65 percent was reached.

The science of the care and treatment of children was unknown in Czarist Russia. Child mortality was extremely high. A child was born under extremely unhygienic conditions, was cared for amid primitive surroundings, subjected to poor nutritional management and of course contracted one of the numerous childhood diseases, perhaps diphtheria and was strangled to death on the treacherous false membrane produced by this disease.

With characteristic Russian resignation, not much was done. A child was born, lived a brief time and died. Soon another child was born, was fortunate in avoiding disease and lived. The Lord gave and the Lord took away and there was not much that one could do about it. Medical science was primitive and what there was of it was not for the peasant, the worker and humble citizen. It also goes without saying that the general rate of mortality was exceptionally high.

Things were not getting better with the passing of the years; if anything, they were getting worse. Let us quote Dr. Semashko, who became the first People's Commissar of Health in 1918: "With the outbreak of the war the picture became even more gloomy. The general economic conditions and consequently the sanitary conditions of the population, became still worse. Mass migrations (war refugees, war prisoners, soldiers on leave) promoted the spread of infection to which the weakened human organism became particularly susceptible. Terrible war losses (it has been calculated that Russia had nearly twenty million killed and disabled during the First World War), dealt a staggering blow to the country. On the other hand, the medical service, poor as it was, was fully disorganized, the great majority of the doctors having been mobilized for the war. Owing to food, fuel and other difficulties as well as the lack of necessary medicines for the patients, even the hospitals which remained intact dragged on to a miserable existence, while some were forced to close down.

"It is hardly necessary to say that no medical

statistics of any value were kept at that time. One thing is clear, that the war completely undermined both the health of the population and the medical organization. The breakdown was complete.

"It was under such conditions that the Soviet power took over the health services. It was necessary to carry out a radical revolution in these services and to bring order out of chaos. It was necessary to reorganize the entire public health system, both in the principles on which it was based, in its organization and in its principle aspects along entirely new lines."

Dr. N. A. Semashko was one of the really great and enlightened leaders of medical reform in the new Russia. His methods and ideas were regarded as radical and met with some opposition from the old guard, the men who could not make too quick a change; however, in the end he won out. The few conservatives quickly saw that they were wrong and Semashko was right. They came wholeheartedly to his side and gave him their fullest support.

Dr. Semashko organized and put into effective operation the Narkomzdrav of the People's Commisariat of Health, of which he was the first head. Statistics were kept in a scientific and orderly fashion. Bacteriology instead of dead house studies was emphasized. The swing was away from the academic to the vital, living functions of the human body. Measures of controlling and limiting infectious diseases were introduced and put into practice all over the country. The principles of personal and public hygiene were widely publicized.

Things were taking a turn for the better. Human life was acquiring a new dignity. The fight against disease and death was now fought with a vengeance. The People's Commissariat of Health was not the only new medical institution to be established during the early days of Soviet medicine. During the early years a great many medical institutions were founded. In those early days the world saw the establishment of the All-Union Institute of Experimental Medicine in Leningrad, with its branches, the Moscow Biological Institute, the Tubercular Institutes and the Venereological Institutes in Moscow and Kharkov; the Leningrad Institute of Physical Therapy, the Institute of Pathological Anatomy, the Labor Protection Institute and the Institute for the Study of Industrial Diseases in Moscow and Leningrad; the Institute of Social Diseases in Moscow, the Institute for the Study of Health Resorts, the Tropical Institute, the Physiological and Psychological Institute and the Artificial Climate Pavilion. Somewhat later a Leprosarium was built in Holmsk in the Crimean district, which is one of the best in the world. This was indeed a lusty rebirth of medicine in the newly organized and reborn land.

One of the first measures taken by the Soviets was the organization of means and methods of protecting and safeguarding motherhood and childhood. A network of institutions and unions for the protection of children and mothers spread from one end of Russia to the other. Life at its source was conserved.

From Sherwood Eddy who visited Russia in the early days of its rebirth we learn that "One of the most brilliant achievements of the Soviet Union is in the sphere of childhood and its attainment of free compulsory, universal primary education. This is surprising to the newcomer in Russia, who would perhaps have expected in a revolutionary government, a concentration upon material things and a more spartan rigor and even neglect in dealing with childhood. Instead, it is as if the Revolution had taken a little child and set him in the midst of the whole system to occupy the first place of regard and almost of reverance. Children must be considered first in every law and plan. They must have the best milk, the most humane and scientific care, the chief consideration in everything. This is both instinctive and reflective. No people in the world have a greater natural wealth of affection for their children than the Russians, and no system gives more recognition to their importance. This is one evidence of the farsighted and enduring nature of the whole movement."

Another aspect of this problem is furnished in most illuminating terms by M. Vladimirsky, who in his work on this aspect of the public health problem wrote: "To organize the life of millions of women who participate more and more in production and socialist construction—such is the problem at present which faces the organs of the Commissariat of Health in that particular section of work. This new problem also changes the methods of work. The work of protection of motherhood and infancy must be built as a mass work, which must satisfy the needs not of hundreds, but of hundreds of thousands of working women."

As time went on, the movement to protect the health and lives of the ordinary citizen gained in momentum. Health centers were founded everywhere in the Soviet republics. Each plant and factory had its own health center to care for the health of the workers. Each district, each neighborhood, had its health organization for the instruction of the masses regarding health matters as well as for instituting practical measures for the control of disease.

A healthy and vigorous interest in medical research was manifested early in the formation of the Soviet republics and a network of medical research institutes headed by the world-famous Institute of Experimental Medicine contributed much to medical knowledge. Ivan Pavlov was the head of the Institute of Experimental Medicine in its early days. Pavlov was Russia's greatest physiologist even in pre-Soviet days, but with the coming of the Soviets into power his laboratory was brought up-to-date, new equipment was bought and working conditions improved immensely.

All of Soviet Russia became a beehive of healthy activity. During the years of the First and Second Five Year Plans, research in medical science went

on at an accelerated pace. New projects were put into execution. New laboratories and medical institutions were established everywhere. Unlimited funds were put at the disposal of research workers, physicians and medical scientists and soon much valuable and important information was forthcoming along a dozen different frontiers of medical knowledge.

The primary and foremost aim of Soviet medicine was to make medical care available at all times to all the people. The very first Commissariat of Health began to socialize the entire process of medicine, both in the hospitals and institutions as well as among private physicians. Some opposition was encountered from the conservative elements of the medical profession in putting these plans into execution, but this opposition melted away in the face of the very good results which were soon in evidence.

There is little doubt that Dr. Semashko will go down in medical history as one of the truly great medical leaders. His work as the first director of the Commissariat of Health was so outstanding that Lenin appointed him head of the State Department of Health. His greatest and most lasting accomplishment is the socialization of the practice of medicine. He was a man of great foresight, for it is his ideas which are now being recognized throughout the medical world, when countries far removed from Russia are beginning to look favorably upon socialized medicine. Dr. Semashko was a tireless worker. After the conclusion of his labors for the state he devoted himself to a compilation of a *Cyclopedia of Medicine* which runs into more than forty volumes.

Dr. G. N. Kaminsky succeeded Semashko as Commissar of Health. During his administration the scope of the activities of his department increased greatly. He established many new dispensaries and clinics, particularly in the smaller towns and villages and in the farthest parts of the vast Russian republics. It was Dr. Kaminsky who introduced health insurance and insisted that every employer, whether private or government, carry insurance for all the workers. Thus universal health insurance began in reality for the first time.

With the increased interest in medicine and medical education there were established additional medical colleges throughout the new Russia. From the very beginning, practice was emphasized as an important part of medical education. Practical work from the very first years of medical education was insisted upon. The education of the medical student was thorough in every branch of medicine, including practical nursing.

However, medical education did not cease with graduation from medical school. Post graduate work was encouraged by the Council of Medical Education. Special inducements were held out to young doctors up to thirty-five years of age. These physicians were enrolled in a special aspirant group after they had passed examinations in special medical courses, natural sciences and foreign languages. The course of study was for three years; the first year was devoted to pre-clinical and theoretical consideration of the speciality that was being studied. After examinations in practical and theoretical studies, the aspirant, as he was known, devoted the rest of his course to clinical work in his speciality. Upon graduation he received a certificate rating him as a specialist in his particular field.

From the beginning there was assurance that every doctor would serve effectively, and when the Soviet reorganization of the health facilities of the nation began, all doctors were employed by the state and assigned to various medical, surgical, health protective and other types of institutions and hospitals according to their ability and experience. The desire to improve medical education, practice and research was manifested at all times and effective measures were taken to bring this about.

The social and humanistic aspects of medical practice were not neglected. The two curses of the Russia of the Czar's days, prostitution and alcoholism, received wholesome attention from the earliest days of Soviet medicine. Within a period of a very few years drunkenness was greatly reduced and prostitution was almost abolished. Practical measures were instituted in bringing these changes about, practical measures and commonsense. Venereological institutes were established for the care and treatment of prostitutes. At the same time they were also taught useful trades such as cooking, designing, dressmaking, weaving, *etc.* They were taught the dignity of honest labor; their economic status was improved. The only prostitutes who did not benefit from these procedures were the psychopathic personalities who required psychiatric treatment and isolation. This was given them, and the rate of venereal diseases dropped to an encouragingly low level.

Similar methods were employed in regard to the chronic drunkards. They were deprived of their wages upon repeating their offenses. They were also educated along social lines and given some measure of respect for themselves and their families. Where required, medical care was given to overcome the intense craving for alcohol.

Other social aspects of medical practice were practical attempts to overcome maladjustment, emotional immaturity, and other shortcomings among certain individuals of the populace. Practical psychiatry did a great deal to ferret out hidden conflicts and bring them to the surface, making it possible to institute corrective measures. Quirks in human nature, curious twists of the human mind, deviations from normal thinking and behavior, receive careful attention and corrective measures are instituted at once to overcome them. Thus, psychiatry serves a very useful function in preventing the onset of more serious mental ailments and maladjustments.

From the very beginning of its inception, Soviet medicine was vitally interested in the economic status of the physician. The physician was paid by the State and the State emphasized the fact that he

was to keep his patients well at all times so that no services could be lost in building up the new Republics.

However, it should be stated that not all physicians worked for the State, there were a few exceptions. However, all hospitals, sanitariums, clinics and dispensaries were and are state controlled and operated. For the most part medical practice was under state control from the very beginning.

This does not mean that private medical practice is not permitted under certain conditions. These conditions are about as follows: a physician who has attained a great reputation in his speciality and whose skill is unique, may be called in to give an opinion or to render special treatment for which he may receive a fee from the patient in addition to his salary which is being paid to him by the State.

Even where state medicine is in force, private practice may exist. Dr. Kaminsky, the second Commissar of Health encouraged private practice. He found that there was no conflict between private practice and socialized medicine. In socialized medicine as in private practice, certain physicians attain renown because of unusual skill and their services are not restricted. In the Soviet Union today, any physician may be called upon to render his services to a private patient and be paid by that patient. No objection is ever raised by the state authorities. As a matter of fact, it is a rather common practice in the USSR today.

Dr. Frankwood Williams, who was very much interested in Soviet medicine, which he studied at close range and who was well acquainted with many aspects of it, said: "Crime, with all that we have done, is still a serious major problem; nervous and mental diseases take their annual ghastly toll; maladjusted school children and adolescents continue to be a problem of great concern. In Russia, believe it or not, these things have ceased to be a major social problem, or are rapidly diminishing as such. It is inconceivable, but there it is. The rate of incidence of nervous and mental diseases has risen in our country every year since statistics have been kept and the work of some of us who have been laboring in the field of mental hygiene for the past twenty years has not changed one-tenth of one percent. Yet in Russia there is reason to believe that the rate of incidence of nervous and mental diseases is dropping.

"Has this been accomplished by some legerdemain? Is it by some trick that delinquency is not a serious major social problem; that alcoholism is steadily decreasing in social significance; that nervous and mental diseases are dropping not only surprisingly but unbelievably; that there aren't so many maladjusted school children; that adolescence in Russia is not a serious problem? This has not been accomplished by a trick that we can not learn and apply here.

"Can Russia teach us? If we attempt to learn from Russia, it will be the hardest lesson we have ever attempted; and yet it is simple. What is it? Not tricks of education, not special methods of handling delinquents or nervous and mental conditions. It is merely this: that a civilization cannot be based upon the principles of exploitation but that a civilization *can* be based on the principles of no exploitation. Everything else education and all, follows from this."

Dr. Williams is right. The incidence of psychoneurosis among soldiers in the Soviet armies was less than in all the other armies. There were very few mental breakdowns. Even the civilian population, subjected as it was to the horrors of war still maintained a reasonable level of mental health. A satisfied people is a mentally vigorous and healthy people.

The great Russian physiologist, Ivan Pavlov, said: "Science is now honored by the broad masses of the people in our country . . . Science in former days was separated from life and was alien to the population. Now I can see science is esteemed and appreciated by the entire nation. I raise my glass to the only government in the world which could have brought this to pass, which values science so highly and supports it so actively . . . to the government of my country."

This is truer today than it was in Pavlov's day. Interest in science is so widespread that the researches of the scientists are widely reported in the daily press. Special movies of Soviet scientific accomplishments are shown in the theatres. Doctors and scientists who have attained special eminence are honored by the State with titles of Academician, or even Hero.

The beginnings of Soviet medicine were brave beginnings. They foretold of the much greater things that were to come. A veritable revolution took place in medical education, practice and research, a revolution that startled and amazed the rest of the world. From these beginnings stemmed many great discoveries and innovations in all branches of medicine.

183 Avenue O

Microfilm Copying Services

As an advocate of free microfilm copying as an extension of library service, Dr. Atherton Seidell, an Honorary Consultant of the Army Medical Library, has left for Paris to extend his installations of such services in French medical libraries. Two of these are now in operation; one in the library of the Institut Pasteur and the other in that of the Faculte de Medicine. This year Dr. Seidell expects to inagurate similar free services in the libraries of the Academie de Medicine and Ecole de Pharmacie.

He will also endeavor to promote international cooperation in medical and other scientific documentation through the World Health Organization and Food and Agricultural Organization of the United Nations.

MEDICAL ESSAY

Movements in Medicine

B. LIBER
New York, N. Y.

Insanity has a long and sad history which has left a trail of blood and intense suffering and, what is worse, a deep shadow of prejudice that obscures everyone's thoughts and is difficult to eradicate even today.

In the dark past, mental disturbance was either honored or punished. The patients were either worshipped as inspired seers or condemned as possessed by Satan. Religion had a hand in "curing" them by beating out or exorcising the evil spirits from them, the physician usually kept aloof because he disdained them. Diseases of the mind with their unbelievable symptoms were the laughing stock of all and were treated with cruelty and contempt.

Among the old cartoons making fun of our profession we find some distorted ideas containing, however, fundamentally interesting nuclei. The artist, in his pity for the mentally afflicted and fighting against those who exploited them, lashed out right and left. For instance, in Jenner's time the caricaturist, seeing only the ridiculous side of all medical inventions and discoveries, translated the public's feelings by representing those inoculated with "cow pocks", growing small cows out of all the body cavities. In the same way, the people's opinions regarding the quacks and would-be healers of the sick minds were caustically and often correctly mirrored. The great Brueghel, in his famous "Witch of Malleghem", after more than three hundred years, still makes us laugh with his picture of how stones were "extracted" from the brain to cure insanity. Later mesmerism, trying to conjure mental trouble, was exposed as charlatanism. A century ago Daumier nailed down the *"diamant magnétiseur"*, that was supposed to remedy physical and spiritual ills. Others exposed the talismans, worn around the necks by many as would be charms against fire, famine, the plague and insanity, or the amulets adorning the arms, which were supposed to safeguard the wearers from demons, sorcery and mental disorders. However, be it said in parenthesis, we in the profession, who see many patients in states of undress, still see those "protective" symbols flourishing on their bodies.

Then came Pinel, who stands at the beginning of the 19th century and at the dawn of modern psychiatry, and who, at the risk of his reputation, dared to contend that mental disease was sickness and nothing else, and that it must be treated with kindness and understanding and with a real effort to heal it. An artist of that period pictured him freeing the insane of their chains.

While we are still far from solving the problems of the mentally ill, a good deal of progress has been made since that time.

Recently, a group of physicians belonging to the American Psychiatric Association, organized the Psychiatric Foundation for the purpose of fighting mental illness and as far as possible, preventing it. The Foundation is composed of both laymen and psychiatrists and will form a movement to enroll the help of the public in combating mental diseases. It is too early to know into just what activities the Foundation will branch out, but its aims seem to be to educate the people at large about the troubles of the mind, to get their support for the improvement and better budgeting of the State mental institutions, to win the collaboration of the family, the school and of industry.

It is a large order and unless many more laymen are included in this work and much enthusiasm is shown by all concerned, it will fizzle out, or it will never become the movement that it should be to achieve success. Psychiatrists, doctors, may start an important health work, but since they are scientists and are hampered by medical-ethical considerations, they do not usually form the proper material to leaven any agitation of that kind. The initiative which brought into existence the National Committee on Mental Hygiene, with all its useful activities, came from Clifford Beers, an ex-mental patient, a layman full of fiery fervor. He aimed first, at introducing humanitarianism into the psychopathic hospitals, the defects of which he knew from the inside, but this idea widened into more and more preventive work. He awakened some prominent psychiatrists and so put the entire movement on a scientific basis; but, while it gained in depth and dignity, it remained stagnant in real popularity. The result is that its present splendid work is closer to psychiatry than to prevention and to mental health. It did however, lead to the International Congress of Mental Hygiene of 1930, where this writer had the honor of being the scientific interpreter.

If a comparison with other medical movements is allowed, the various infantile paralysis organizations have come down to the general public, and making use of much sentimentality, have aroused everyone's interest. Thirty and forty years ago, the education of the public to fight another scourge, tuberculosis, was but partly led by medical men. Energetic lay persons reached all strata of society and among the demands of organized labor were shorter workdays and sanitary shops, which served a great deal to help diminish this, almost endemic disease in America.

Over a generation ago Edouard Toulouse, who died this past winter at the age of eighty-two, inaugurated, in France, a great movement for the prophylaxis of the diseases of the mind. For a time, in 1925-1926 this author worked in his preventive out-patient clinic in Paris where the incipient cases were seen; the transition cases between mental health and mental disease. Toulouse, a generous and influential doctor with a high vision, a celebrated author and public figure, succeeded in bringing the plea for the prevention of psychoses through broad social means, to the attention of his entire country.

If it had not been for the two world wars, particularly the last one which ravaged France so deeply, his movement which began to take root, would have borne wonderfully salutary fruits. However, as long as it lasted, it was almost completely carried by intelligent laymen, even embracing some members of the Government.

Such movements may not always be successful, but they are never a real failure. They leave among the lay population a bright spot of enlightenment and result in more advancement in relation to their attitude toward their unfortunate insane brethren.

It is certainly a far cry from the time when doctors misunderstood mental disease and would not soil themselves by touching a crazy person. Today, many of us are not only called upon to take care of the dangerous cases, but also to calmly examine their disturbing life problems and to try to disentangle them. Our most recent step is that from psychiatrists to mental hygienists.

65 W. 95th Street

Medicinal Research Monograph

Marking world leadership now assumed by the United States in medicinal research, the Medicinal Division of the American Chemical Society will publish its first monograph early next year. It will be a complete progress report on world-wide advances in this field.

"Although organized for many years, the Medicinal Division has never before prepared a work of this kind", Dr. Maurice L. Moore, assistant director of research, Frederick Stearns & Co. Division, Sterling Drug Inc., and chairman of the Medicinal Division, stated. "That we are doing so now, is evidence that this country has taken its place in the forefront of medicinal research.

"The chemists working in this field require coordinated assistance to maintain progress. We propose that this monograph will be the first of a series to continue through the years."

Dr. Moore announced the appointment of Dr. C. M. Suter, associate research director, Sterling-Winthrop Research Institute, Rensselaer, N. Y., as editor-in-chief of the monograph. Dr. Suter will be assisted by an editorial board of six members, with Dr. Moore and L. A. Sweet, Parke, Davis & Co., secretary of the Medicinal Division, also serving ex-officio.

On the editorial board are Dr. Walter H. Hartung, professor of pharmaceutical chemistry, School of Pharmacy, University of Maryland, Baltimore, Md.; Dr. Richard Roblin, director of chemotherapeutic research, American Cyanamid Company, Stamford, Conn.; Dr. Peter K. Knoefek, professor of pharmacology, University of Kentucky School of Medicine, Louisville, Ky.; Dr. Edward F. Degering, professor of organic chemistry, Purdue University, Lafayette, Ind.

The board held its first meeting in Atlantic City, in advance of the annual convention of the American Chemical Society.

News Items

The Third American Congress on Obstetrics and Gynecology.—The Third Congress of this organization will be held in the St. Louis Missouri Municipal Auditorium, September 8-12, 1947. The program for the Third American Congress on Obstetrics and Gynecology is being developed under the general chairmanship of Dr. William F. Mengert of Dallas. The general program secretary is Dr. A. W. Diddle, also of Dallas. As in both the First Congress in 1939 and the Second Congress in 1942 the sub-sections of the program are being developed by separate chairmen. Dr. Ralph A. Reis of Chicago heads the medical sub-section and is assisted by Dr. John I. Brewer of Chicago. Dr. Herbert F. Traut of San Francisco is chairman of the medical educator's sub-section, Dr. S. A. Cosgrove of Jersey City of the hospital administrator's sub-section and the chairman of the nursing sub-section has not yet been selected.

Presbyterian Hospital Constitution Clinic.—The photographic unit of the Constitution Clinic, under the direction of Dr. Sheldon and Dr. Dupertuis, is now open in Vanderbilt Clinic, Room 1-236, extension 7043 or 7415, New York, N. Y. The purpose of this unit is to take standardized three dimensional photographs of patients and of subjects in research projects from the various services. These photographs provide the basis or starting point for correlational research and constitutional analysis. A cumulative library of them will be available for comparative studies.

The Constitution Clinic will aim to serve all other departments of the hospital and will welcome collaboration with all departments. The objective is not merely to study constitutional factors in particular disease entities but also to build up tables of norms for individual variation with respect to whatever functions and whatever pathology may be under investigation.

Norton Medical Award Invites Manuscripts.—W. W. Norton & Company are again offering the Norton Medical Award for book manuscripts written for the lay public by professional workers in the field of medicine. The terms of the award have been slightly altered. The publishers now set no final closing date for the submission of manuscripts which may be submitted at any time, the award not being limited to any one year. The Norton Award offers $5000 as a guaranteed advance against royalties. Either complete manuscripts or detailed table of contents together with one hundred pages of manuscript may be submitted. A descriptive folder giving full details of the terms of the award may be secured on request from the publishers, W. W. Norton & Co. Inc., 101 Fifth Avenue, New York 3, N. Y.

Alumni Association of NYU Medical College.—Dr. John M. Loré, a Fellow of the American College of Surgeons and of the New York Academy of Medicine, has been elected the new president of the Alumni Association of New York University College of Medicine, it was announced recently by the medical alumni office of the college. Dr. Royal A. Schaaf, also a Fellow of the College of Surgeons, has been named vice-president.

Other officers named are: Secretary, Dr. Barbara Ann Parker; Treasurer, Dr. Richard H. Hyman; Alumni Federation Directors, Dr. Henry H. Ritter, Dr. John Munn Hanford and Dr. H. M. Wertheim; Executive Committee members-at-large, Dr. Sydney D. Weston, Dr. Walter Levy and Dr. S. Aubrey Gittens.

American Institute of Physics.—Reorganization of the American Institute of Physics and plans for a new semi-popular journal devoted to the fast-growing science and its relation to society have been announced by the institute.

Effective immediately the members of the five societies, The American Physical Society, The Optical Society of America Inc., the Acoustical Society of America Inc., The American Association of Physics Teachers, and The Society of Rheology, will become members of the institute. Heretofore the institute has been an organization of these five member societies without any individual memberships. Provision is now also made for associate membership in the institute, to others interested in physics.

Dr. Paul E. Klopsteg, director of research of the Technological Institute, Northwestern University, is chairman of the institute which was formed in 1931. Dr. Henry A. Barton is director of the institute and has been since its founding. Headquarters are at 57 East 55 Street, New York, N. Y.

Health Department Films.—*Your Health Department in Action* is one of several new films recently acquired by the Department of Health for loan to interested groups in New York State. It is a two-reel, 16 mm. sound film, and in twenty minutes gives a complete picture of a well-rounded public health program. It features such subjects as sanitation problems; public baby clinics; the contributions made by state institutions and secondary schools to public health; health department laboratory analysis of milk; operation of an up-to-date public water works; community mobile trailer x ray laboratory; the part newspapers play in promoting health; and the campaign against venereal diseases. Packed with convincing facts, it helps to interpret to the community what the health department is trying to accomplish. It provides arguments for integrating the activities of other community organizations with the health department program.

Requests for the film should be addressed to the Supervisor of Visual Instruction, State Department of Health, 18 Dove Street, Albany 6, New York.

Alpha Epsilon Delta.—Dr. H. G. Weiskotten, chairman, Council on Medical Education and Hospitals, American Medical Association, and Dean, Syracuse University College of Medicine, was among the honorary members initiated at the installation of the New York Beta chapter of Alpha Epsilon Delta, national honorary premedical fraternity, on April 19th.

Along with nineteen charter members, other faculty members initiated included Dr. Eric H. Faigle, associate dean, College of Liberal Arts, and premedical adviser; Dr. C. C. Spencer, professor of chemistry; Dr. C. L. Brightman, professor of physics; Dr. Robert Gaunt, professor of zoology; Dr. M. Eunice Hilton, Dean of Women; and Dean Frank Piskor, Dean of Men. The installation ceremonies were conducted by Dr. Hugh E. Setterfield, associate professor of anatomy, School of Medicine, The Ohio State University, and national president of Alpha Epsilon Delta, and the national secretary, Dr. Maurice L. Moore, assistant director of research, Frederick Stearns & Co., Div. Dr. Setterfield and Vice-Chancellor F. G. Crawford of Syracuse University were the guest speakers at the installation banquet, where they discussed some of the present problems of premedical and medical education. The Premedical Society was organized by Mr. Morton H. Rachelson under the guidance of Dean Faigle and with its installation became the 38th chapter of Alpha Epsilon Delta.

Postgraduate Studies at the Yale University School of Medicine.—A program of postgraduate studies for former medical officers discharged from the armed forces, has proved highly successful in its first year of operation at the Yale University School of Medicine.

The program, recently revealed for the first time by Dean Francis G. Blake, was inaugurated a year ago on an experimental basis. Its purpose was to fill in the gaps in the research work and hospital training of the younger men in medicine, whose training was radically curtailed by virtue of their service in the armed forces. The seventy students in the course, sixty-nine of whom were veterans of service with the American armed forces and one, a veteran of service with the Canadian army, are regularly enrolled under the GI Bill of Rights. Additional scholarship aid is also available, where necessary, for the students.

The course comprises a full academic year or more, of advanced training in any field of medical science or clinical medicine in which the returned veteran intends to specialize. Of the seventy in the course, half of them, according to Dean Blake, are staying on for a second year of advanced study. There are no formal enrollment periods, because of the different times the medical officers are discharged from service. They are merely enrolled, providing there are vacancies upon their discharge, and their work begins immediately. The course, Dean Blake said, will continue as long as the demand exists.

New Literature Lists.—Literature lists compiled by the reference division of the Army Medical Library during the past month include the following subjects: Color Therapy; Treatment of Rabies; Injurious Effects of Working with Pneumatic Tools; Psychology of Fear; and the Liver in Graves' Disease.

Reference Booklet.—Wyeth Incorporated, Philadelphia, Pa., has recently published *Therapeutic agents of special merit*, a handy new reference booklet for the busy doctor. The booklet has been designed to provide the doctor with clear, concise and accurate information about Wyeth therapeutic agents, which by reason of their widespread use, have proved to be helpful to the general practitioner as well as to the specialist.

Each therapeutic product is illustrated and fully described, pointing out what it is, how used and how supplied. Copy has been held to a minimum, and only essential facts about each product are given. Additional clinical and laboratory data on the agents listed are available upon request. Included, are a convenient table of contents and a comprehensive medical, cross-index.

Electroencepahalography.—Dr. Paul R. Hawley, chief medical officer of the Veterans Administration, has issued a report that a comprehensive program to train doctors and technicians in the recording and interpreting of brain waves, has been inaugurated by the Veterans Administration. The science of recording brain waves by machine, technically known as electroencepahalography, and interpreting the results, is becoming an increasingly important diagnostic method in Veterans Administration hospitals and mental hygiene clinics, Dr. Hawley explained.

Four and six-channel electroencephalograph machines will be installed in all Veterans Administration hospitals, of one thousand beds or more, and in larger Veterans Administration mental hygiene clinics. Training courses up to two and one-half months, depending upon previous experience, are being offered to Veterans Administration physicians. The electroencephalography program is under the supervision of Dr. Frederic A. Gibbs of the University of Illinois. Courses for Veterans Administration physicians are intended to turn out fully-qualified electroencephalographers who can supervise and expand this highly specialized program.

Physicians interested in becoming associated with the Veterans Administration, to train for this work, may be detailed immediately to the training course. Applicants should apply at the nearest Veterans Administration office.

The electroencephalography program is one of three nationwide neurological programs now underway in the Veterans Administration. It is intended to implement the existing specialities in the neuropsychiatric department. The other programs are in the fields of aphasia and epilepsy.

Personal.—Dr. Ernest Lyman Stebbins, director of the school of hygiene and public health and professor of public health administration of Johns Hopkins University, has been appointed chairman of the Advisory Board on Health Services of the American National Red Cross according to an announcement made by Chairman Basil O'Connor.

Dr. Stebbins succeeds Dr. Lewis H. Weed, head of the division of medical sciences, National Research Council, who will continue to serve on the Advisory Board as a member of the committee on medicine. In recognition of his past services, Mr. O'Connor presented Dr. Weed with a special Red Cross citation upon his retirement.

Dr. John C. McCauley has assumed the duties of surgeon-in-chief (part-time) on the staff of the New York State Reconstruction Home, West Haverstraw. He succeeds Dr. Halford C. Hallock who recently resigned.

Edwin A. Salmon, present chairman of the New York City Planning Commission, was recently announced as the director of the New York University-Bellevue Medical Center by Chancellor Harry Woodburn Chase, of New York University. Mr. Salmon will have the full-time administrative responsibility for the $15,000,000 Medical Center, and will direct the coordination of its services with other health agencies. He will begin his full-time duties September First.

Dr. Harold C. Wiggers of Urbana, Ill., has been appointed head of the department of physiology and pharmacology at Albany Medical College, it was recently announced by Chancellor Carter Davidson of Union University.

Dr. Wiggers will assume duties as professor of physiology and pharmacology and head of the department on July 1, according to Dr. Robert S. Cunningham, dean of the college.

Paul C. Campbell, Jr., Surgeon, U. S. Public Health Service, has been appointed chief of the Office of Dermatology, Industrial Hygiene Division, U. S. Public Health Service, Federal Security Agency. Dr. Campbell succeeds Dr. Louis Schwartz, who will retire on July 4 after forty-one years of service.

Dr. Lawrence E. Detrick, Beverly Hills, Calif., formerly a research associate at the University of California at Los Angeles and during the war a nutritional expert for the Army, has joined the Rexall Drug Company as associated medical director.

Dr. George R. Harrison, dean of the School of Science, Massachusetts Institute of Technology, has been elected chairman of the American Institute of Physics, succeeding Dr. Paul E. Klopsteg, director of research, Northwestern University Technological Institute, who has served as Chairman since 1940.

Colonel Harry A. Bishop, chief of Hospital Division, was recently awarded the Legion of Merit for "exceptionally meritorious service" as Commanding Officer of Welch Convalescent Hospital at Daytona Beach, Florida, from April 1945 to July 1946. Major General Norman T. Kirk, The Surgeon General, presented the award.

LETTER FROM BRITAIN

(From Our Own Correspondent)

The medical problem has not been solved as yet, nor is it likely that it will be solved to the satisfaction of all concerned, nor perhaps to the satisfaction of the majority of those directly interested. On the other hand, there seems to be a tendency on the part of the British medical profession and of those mainly responsible for the direction of its policy, to compromise so as to obtain the best terms possible, but not to surrender wholly its independence. There will undoubtedly be a great amount of discussion and clashing of views before anything approaching unanimity is reached, but that a decision more or less satisfactory will be arrived at, may be prophesied. Compromise is in the air and compromise is an essentially British way of overcoming or evading obstacles. However, it is obvious that great changes in the conduct of the practice of medicine are at hand and much of its freedom will be restricted, whether for good or evil, time alone can show.

Linnean Medal

Linnean Medal for 1947 of the Linnean Society of London has been awarded to Prof. Maurice Caullery of University of Paris.

Grant for Sufferers from Cancer

Dr. William L. Garner, of Bournemouth, who died recently, has left $8,000 to Guy's Hospital, London, to help "sufferers from cancer".

General Health in Britain

Views as to the prevalence of disease in Britain are conflicting. While Sir John Boyd Orr is of the opinion that general health in Britain is better than formerly, others contend that the people at large are not so well as formerly. These diverse views may be explained to some extent by the food situation. In peace time, while some of the population were overfed so to speak; that is, ate and drank more than was good for them, a greater number were underfed. Now all are fairly well fed, so that on the whole general health has improved.

Association of Surgeons of Britain and Ireland

The annual meeting of the above association will be held at Oxford from July 3 to 5. The provisional program includes a discussion on the surgical relief of pain (excluding sciatica) to be opened by Mr. J. H. Kellgren, Professor Geoffrey Jefferson and Professor J. Paterson Ross. There will also be a discussion on ulcer and cancer of the cardiac end of the stomach and lower end of the oesophagus. Opening speakers will be Mr. R. Allison, Mr. T. Holmes Sellors, Mr. Vernon Thompson and Mr. N. C. Tanner.

Decrease in Deaths from Pulmonary Tuberculosis

There has been a considerable decrease in Britain in deaths from pulmonary tuberculosis; also, the disease does not appear to be so prevalent.

Sir John Boyd Orr and the Food Situation

Sir John Boyd Orr holds that Britain is better off as far as food is concerned than most other European countries and that while Britain is not yet up to the ideal nutrition level, the country as a whole is better fed than in 1939. He is also of the opinion that fats will be scarce for years.

Need for Midwives

Midwives are needed. It has been estimated that there will be 42,000 births in the greater London area in the first quarter of 1947, an increase of about 1,000 over the previous quarter. In all parts of Britain the number of births have increased greatly. L.C.C. hospitals required one hundred fifty full-time midwives and in the county of Middlesex, seventy-five full time midwives were needed. Sir William Jameson, Chief Medical Officer to the Ministry of Health, said that despite the lack of an adequate supply of nursing staffs, including midwives, the infant mortality rate for 1946 was expected to be only forty-three per thousand live births, the lowest figure on record. Bad weather and fuel shortage had not caused as much sickness as had been expected.

Up to February 8, 1947, 17,881 more babies were born in England and Wales than in the corresponding period last year.

Death of a Great Egyptian Surgeon

Ali Ibrahim Pasha, honorary K. B. E., honorary F. R. C. S.—England, a former Egyptian minister of Public Health died in Cairo on February 3, 1947. He was the foremost surgeon of Egypt and was appointed K. B. E. in recognition of his aid to Britain during the war. As a surgeon he was unrivalled in his country. In Cairo he was in charge of the medical school of the Kaar-el-Aini hospital and was appointed dean of the medical school when plans were being made for building a new hospital on Rhodes Island. He was chiefly responsible for the building of the great Euadi hospital on the bank of the Nile and he was the creator of a new medical school in Alexandria as well as rector of Cairo University. He was one of the great men of modern Egypt. Frail in appearance but physically and mentally strong, he was a glutton for work and his physical capacity, backed by a great brain power and indomitable will, rendered him able to accomplish an immense amount of organizing work. When Lord Moynihan visited Egypt, according to Sir Alfred Webb Johnson, he was deeply impressed with the high standard of surgery in the country and regarded Ali Ibrahim Pasha as one of the most brilliant surgeons he had ever seen at work. His son Hassan took the F.R.C.S.—England in London.

Book Reviews

Genetics

Human Genetics. By REGINALD RUGGLES GATES, Fellow of the Royal Society, emeritus professor of botany, University of London. Volumes I and II. Illustrated. New York: The Macmillan Co., 1946. Pp. 2260. Price $15.00 a set.

The sum of all living things is uncountably large and it seems that in each, the factor of heredity plays an important part. The known facts about heredity are now so exceedingly numerous, that their number seems to be in numerical equality with that of all living things. Their description, almost a superhuman task, is the reason for this book; the third of a triad, each one, and especially this last, exceeding its predecessor in the volume of progressively accumulated knowledge.

The present volume mainly contains new material. The approach throughout has been mainly biological rather than strictly genetical. The first four chapters, which deal with the more genetical and cytological aspects, are entirely new and discuss general principles, human cytology and linkage. In chapters V, VI, IX, XVI and XXIX the material is partly anthropological, while chapter XXX is almost wholly anthropological. These and other chapters deal mainly with medical abnormalities of the various organ systems: those of the ocular apparatus, including color blindness, in chapters V, VI and VII; the auditory apparatus in chapter VIII; those of the skin,(albinism) in chapter IX; the abnormalities of the hair, nails and teeth in chapter X; those of the bone structure and of the skeleton in chapter XII. Anatomical abnormalities of the hands, feet and limbs are described in chapter XI.

Eye color and hair color, which occupy chapter V, should be read in conjunction with the chapter on albinism. It seems that each has color relation to the other, and that blue and brown are the basic colors from which the various mutations—some nine in number—finally take place. Color seems to have no geographical distribution and little or no racial restriction. Albinism may be total or partial, and a curious fact is that twenty percent of the parents of albinos are cousins. All kinds of bizarre combinations result.

Heredity also plays a part in functional derangements. Chapter XIII takes up metabolic defects and derangements, while chapter XVII discusses allergy—perhaps not quite as fully as one should like. Chapter XVIII describes the genetic relationships of a number of well known clinical syndromes, like obesity, the Fröelich syndrome, etc. Chapter XX discusses the various sexual and intersexual relationships—the breast, the male genitals, the female pelvic organs—combining the anatomical facts with the functional manifestations, *e.g.,* as in homosexuals.

The chapter on twins and twinning discusses the various theories or twin-origin. It gives the statistics on multiple births and brings together many biological results of the comparative study of twins. The comparisons of one-egg twins, which are not found in any of the recent books, show the limits of inheritance. Other references to twins are scattered throughout the book.

The genetic aspects of the blood system are extensively reviewed in chapters XIV, XV and XVI. This includes the discussion of many somewhat obscure blood diseases, such as elliptocytosis, thalassemia, etc. In hemophilia, the earlier genetic outlook has been greatly changed. The same is true of other blood diseases, and of the blood groupings in which fundamental advances in racial anthropology as well as in medicine have occurred. The Rh factor is included in the description of the genetics of the blood groups. This last, of course, has become of enormous clinical importance in medicine, obstetrics, pediatrics and in blood transfusions in general.

A succession of chapters on muscular and neuromuscular abnormalities, defects of the nervous system and mental defects, makes it clear that no sharp line can be drawn between these three categories. The chapter on normal mental differences is rather restricted, because much of the material seemed to the author to be rather outside the province of his present discussion.

The chapter on cancer elaborates the various theories, the manifold observations and the many experiments bearing on cancer from a single point of view, that of uncontrolled growth. It seems that constitution and susceptibility in relation to the body-build is destined to become of increasing importance in the study of hereditary factors, and the chapter on constitution emphasizes some of the important recent developments in this field.

The last part of the book is devoted to such ordinary subjects as constitution, body-build and susceptibility, stature and size, finger prints, and anthropological characters, as well as to extraordinary conditions such as genital anomalies, breech presentations, etc.

In general, the results of animal genetics in mammalia, and sometimes the results of plant genetics, are frequently cited when they throw light on similar conditions in man. Similarly, the results of embryological, tissue culture and biochemical knowledge are used to explain certain abnormalities. Such knowledge has resulted in many recent discoveries which bring biochemistry and heredity into intimate relations in many inherited defects and diseases. For this reason, more is known about the biology, physiology, morphology and teratology of man than of any other organism, and this knowledge constantly throws side-lights on the interpretation of his genetics.

In man, inherited conditions may have (1) dominant, (2) recessive or (3) sex-linked characteristics, in different pedigrees, and the multiplication of the latter has become a characteristic, even though a somewhat obscure feature of human genetics; the full explanation of which, may finally involve an important new principle in genetics. The import-

ance of "skipping a generation"—now known as lack of penetrance—has also been recognized. The author emphasizes that dominance and recessiveness are not absolutely distinct categories, but that they represent a sliding scale of values from strict dominance through partial dominance, sometimes with "lack of penetrance", to complete recessiveness with very incomplete penetrance. None of the various explanations for this are at present wholly satisfactory, except that there are genes of different strengths for the same abnormality in different families.

Many characteristics in man, such as melanin and *spina bifida,* have been studied from so many different points of view, that they are referred to in more than one part of the book and under very different headings. The index, therefore, should be consulted before the reading of any particular topic. Only key references are given, and some of the more important ones are, in addition, cited under each topic. All of these serve as an introduction to the complete literature of each topic and should be sufficient to serve as a starting point for anyone who wishes to pursue any investigation; there are limitless opportunities for further research.

As the occasion made it necessary, the author found that the pedigrees have frequently required complete reconstruction, often with changes of the standard symbols, which the author hopes scientific journals will adopt more completely. The various forms of connotation of the pedigrees are defective, in that they are a frequent source of error and difficulty in interpretation and correlation.

Seventeen hundred pages make a big book in any language, yet the book is not quite enough because of the compression of the subject matter. Without much effort, each paragraph might be a page, each page a chapter, each topic a complete book. Nevertheless, it makes a satisfactory portal through which, via a plethora of well chosen references to other monographs, papers and books, one may enter an exceedingly large space beyond, filled to overflowing with an abundant, intriguing, fascinating and amazing fund of factual knowledge concerning the why and the wherefore of our growth and normalities, and of our defects and abnormalities. For the present, these are facts and not yet satisfactory explanations of the subject of heredity, whose manifold manifestations greet us on every side in normal and abnormal behavior and in all forms of health and disease.

It is a book crammed full of information, for which the adequate reading and understanding of, a whole new language of words and symbols is necessary. Nevertheless, for the present, the book is encyclopedic in extent, and contains much to make it one of the most valuable reference books on a learned man's bookshelf.

With their usual dexterity, MacMillan have done a fine job in manufacturing the book. Excellent, clear typography on coated paper makes it easy to read. The illustrations are well chosen and well reproduced. Both author and publisher are to be congratulated on the completed result.

Child Psychiatry

Modern Trends in Child Psychiatry. Edited by NOLAN D. C. LEWIS, M.D., and BERNARD L. PACELLA, M.D. Editorial assistant, GERTRUD M. KURTH, Ph.D. Illustrated. New York: International Universities Press, 1945. Pp. 341. Price $6.00.

This monograph presents the newest knowledge of child psychology and child guidance, portrayed by leading authorities in their fields. The various aspects and manifestations of anxiety in infancy, childhood and adolescence are dealt with, and discussions are presented on the primary behavior disorders, psychotic reactions in children and delinquencies. Environmental conditions, as compared with constitutional and maturation factors for the production of symptoms, are investigated and attention is directed toward the relationship of behavior deviations to actual structural and physiological changes in the brain. Methods and techniques newly developed in clinical psychiatry, psychology and the laboratory, for the diagnosis and differential diagnosis of the various types of behavior disorders, are brought to the fore. The different approaches to the therapy of the disturbed child and their recent additions or modifications are discussed, including the methodology of child analysis. Certain psychoanalytical concepts as they apply to child relationship, and the "living" social relationship between the child and the therapist, are also discussed. The utilization of art production, play activities, techniques of group therapy and the rôle of psychiatric, social case work are also considered.

Neurology

Diseases of the Nervous System in Infancy, Childhood and Adolescence. By FRANK R. FORD, M.D., associate professor of neurology, The Johns Hopkins University. Second edition, second printing. Illustrated. Springfield, Ill.: Charles C. Thomas, 1946. Pp. xviii + 1143. Price $12.50.

The neurology of childhood is still in the early stages of development, as compared with that of adults, and even the common neurological disorders of the period are relatively obscure. The author has made a successful attempt to bring these conditions together, to classify them and interpret them for various age levels of childhood. Each clinical entity is evaluated from the standpoint of pathology, anatomy, diagnosis, prognosis and proven principles of treatment, correlated with selected bibliographies from the world literature. After a preliminary discussion of the examination of the nervous system, the author interprets the clinical aspects of the anatomy and physiology of the nervous system, prenatal disorders, heredofamilial diseases, infectious, metabolic and circulatory disturbances, neoplasms, injuries and diseases of the autonomic system. The entire subject is then reviewed in terms of syndromes and symptom groups. This up-to-date monograph is a veritable mine of information, and is invaluable in the proper diagnosis and treatment of everyday neurological problems of infants and children. The case histories of the more common disorders help to clarify the pathological physiology in terms of clinical manifestations. This edition brings to the pediatrician and practitioner difficult neurological entities simply and authoritatively.

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JUNE 1947

Medicolegal Notes

Damages

Damages, resulting from an assault, of two thousand dollars for injuries including a fracture of the skull and swelling, bulging and discoloration of the right eye, causing the loss of about six hundred dollars in salary and confinement to a hospital for three weeks, to a woman who had been earning an average of thirty dollars a week, was held not excessive. Daraska vs. Dauksha, 327 Ill. App. 333, 64 N. E. 2d 204.

Excessive Damages Reduced

A verdict of $17,000 for a fracture of the right hip, which had not healed in the eleven and one-half months between the collision which caused it and the trial, but which had not resulted in atrophy of the surrounding tissue and did not require the medical treatment usually attendant upon injuries where such large recoveries were upheld, was reduced to $10,000, one judge dissenting. City of Houston vs. Pondreu, Texas Civil Appeals, 198 S.W. 2d 480.

Death Solely From "Accidental Means" Not Shown

Liability was held not established under an insurance certificate providing for benefits in the event that death resulted from accidental means, independent and exclusive of any other causes where the evidence showed that the insured was seriously ill, that he tried to elevate his body by the use of his elbows and got one foot out of bed. Shortly thereafter he died as a result of a hemorrhage following the rupture of a peritoneal vessel. Railway Mail Ass'n vs. Stauffer, District of Columbia Court of Appeals, 152 F. 2d 146. Not only was there an absence of evidence that any external accidental means produced the hemorrhage, but it appeared that the insured had a body infirmity which was a contributing cause of death.

Amount of Damages: General Rule

The Virginia Supreme Court of Appeals, Chappell vs. White, 184 Va. 810, 36 S.E., 2d 524, states substantially as follows, the general rule as to damages in automobile accidents: No standard has yet been discovered by which to measure in dollars and cents the value of physical pain and suffering. It is a matter for the jury, and the trial judge may not, from a mere difference of opinion, interfere with their verdict "unless it appears from the record that the jury has been influenced by passion or prejudice", or has been misled by some mistaken view of the merits of the case.

"Damages in any sum are frequently inadequate compensation and are not assessed for that purpose alone. They do sometimes serve to make the careless more careful".

Expert Opinions and Physical Facts

In workmen's compensation proceedings, as in cases at common law tried before a jury, a medical opinion which conflicts with the physical facts will not be permitted to control the determination of a factual controversy. This conflict must be submitted to the jury. Poston vs. Southeastern Constr. Co., South Carolina Supreme Court, 36 S.E. 2d 858.

A carpenter for a construction company, working on the top of a building, was guiding a wooden truss, being lowered by a crane, to its place. "A puff of something from the truss filled both eyes", melted and inflamed his eyes so, that he had to consult a doctor and a specialist. His vision was impaired and since then, he has been compelled to wear glasses; even with their use, he could only do certain kinds of interior work. The only contrary evidence was the opinion of an eye specialist who examined and treated the claimant after the accident, and stated that the claimant's continuous inability to see sufficiently to do inside carpenter work after the accident did not result from the accident; that there was no permanent injury to either of the claimant's eyes which was attributable to the accident, and that he had found no conjunctivitis and no evidence of trauma.

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The phrase "immediate total disability and confinement in such hospital" in a policy of insurance covering hospital benefits, is construed by the Arkansas Supreme Court as meaning "total disability must immediately follow the injury, while hospital indemnity may be allowed where confinement is essential, and follows in a natural sequence as a result of the injuries sustained". In an action on an accident policy providing for such hospital benefits, evidence that as a result of an injury sustained on August 16th, the insured was confined to a hospital from December 13 to December 19th, after being in and out of the hospital from October 4 to December 19th, was held to authorize submission to the jury of the question as to whether the injuries resulted in immediate confinement in a hospital within the policy provision. North American Acc. Ins. Co. vs. Branscum, 191 S.W. 2d 597.

Examination Before Trial in Malpractice Actions

In an action to recover for a patient's death which was caused by malpractice in a public institution that was maintained by the defendant city, an examination was allowed by Special Term of the Supreme Court on certain specified items, for the following reasons: General Municipal Law, Sec. 50-d, providing that, municipal liability for the malpractice of certain physicians and dentists in public institutions, does more than remove the sovereign immunity of the city under the conditions mentioned in the statute. It has made the city liable, not only for administrative acts of physicians but for their professional acts and conduct as well, and creates a new remedy against the city, in favor of the injured person. This liability is imposed for the malpractice of a physician in a public institution while rendering medical service gratuitously. Cases such as the Schloendorff Case, have no application to an action brought under this section. "One of the incidents of any lawsuit is the right to examine before trial".

As to the scope of the examination allowed in this case the court said: "While the rule in this department has been against the allowance of general examinations before trial in negligence actions, that rule has been considerably relaxed in actions for malpractice, and especially in a situation where it is claimed that the malpractice caused death. In any event, Section 292-a of the Civil Practice Act specifically provides that in actions against a public corporation, any examination before trial 'granted in a negligence action shall not be limited so as to prevent or restrict the injury concerning the facts of negligence, liability, or damages.' "

An examination before trial of the defendant city, by those persons in its employ having knowledge of the facts, was therefore allowed on the motion of the plaintiff as to the specified items allowed by the order and by the production of all pertinent books, papers and records in the manner prescribed by Section 296 of the Civil Practice Act. Gerke vs. City of New York, 66 N.Y.S. 2d 355.

Definitions of "Total Disability"

The clause "totally or wholly disabled from engaging in any occupation or employment for wage or profit" has been considered by the courts in nearly all the states. Referring to a comprehensive note on the subject in 149 A.L.R. 7, 11, (supplemented in 153 A.L.R., 430), the Maryland Court of Appeals says, (Travelers Ins. Co. vs. Berlin, 45 A. 2d 90, 94): "It is interesting to note, however, that courts which originally took an extreme position, either towards literal or liberal interpretation, appear to be reaching a common ground in the concept of total disability. The disability clause does not insure against inability to pursue a particular occupation, if there is any other occupation open to the insured for which he may be fitted by education, training or experience, and which, yielding a reasonably substantial gain or profit, rises to the dignity of an income or livelihood, recovery may be defeated."

Proof of Cause or Combined Causes of Incapacity to Work

On a jury verdict that the plaintiff sustained an accidental injury in the course of his employment which resulted in total and permanent incapacity to work, judgment was rendered against the employer's insurance carrier for $18 per week for four hundred weeks. The defendant had pleaded temporary incapacity for work. The Texas Court of Civil Appeals, Texas Employers' Ins. Ass'n vs. Wright, 196 S.W. 2d 837, reversed the judgment, conditionally instead of unconditionally, of the issue of temporary incapacity, because of the submission.

Separate issues as to whether the claimed total permanent disability was due, solely to hernia or solely to arthritis, were both answered in the negative by the jury. It was held that the trial court's refusal to submit a special issue requested by the defendant, as to whether the incapacity was due solely to a combination of hernia and arthritis, not attributable to the accident on which the action was based, was also a reversible error.

The testimony of the claimant's attending physician as to the claimant's statements to him, was held not admissible to show the basis of the physician's opinion that the claimant was not injured as he claimed to be, so far as this testimony related to the disputed issue as to the manner in which the injury occurred. In view of the sharp conflict in the testimony as to the manner in which the disability arose, the claimant's attending physician's testimony as to his understanding of how the accident, resulting in the claimed injury happened, was held admissible as hearsay.

The physician's reports, containing hearsay statements that the claimant was injured on a date prior to the injury on which the action was based, were held properly excluded from the evidence.

The claimant in this case alleged that his condition was caused by striking his back when he fell from a boom. There was testimony that he did not strike his back, but was caught by a workman as he fell.

Cerebrospinal Meningitis

According to the *Statistical Bulletin* 28:4, of the Metropolitan Life Insurance Co., the death rate from cerebrospinal meningitis has been declining since it reached its wartime peak in 1943. Among Metropolitan Industrial policyholders the age-adjusted death rate from the disease (ages 1 to 74 years) decreased slightly from 2.2 per 100,000 in 1943 to 2.1 in the following year, and then dropped to 0.9 per 100,000 in 1945 and further to 0.8 in 1946. There are indications that the decline is continuing in the current year.

Wartime conditions, especially the concentration of large numbers of young men in training camps, favored the spread of cerebrospinal meningitis, but epidemics of the disease are by no means limited to war periods. In fact the highest mortality from the disease in the 35 years of this insurance experience was recorded in 1929, when the death rate rose to 4.3 per 100,000. Although the number of cases of cerebrospinal meningitis reported per unit of population in the United States was about 50 percent greater in 1943 than in 1929, the death rate from the disease among the policy-holders in 1943 was only about one half that in the earlier year. The sharp decrease in the case-fatality rate from the disease is due very largely to the widespread use, in recent years, of the sulfa drugs in the treatment of the infection. Currently about one in every five cases of cerebrospinal meningitis

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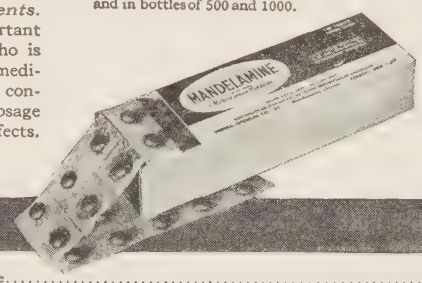

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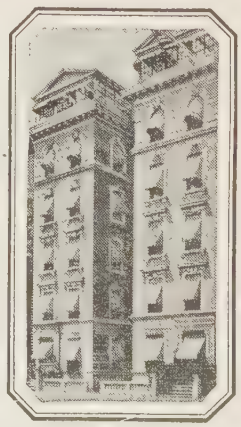

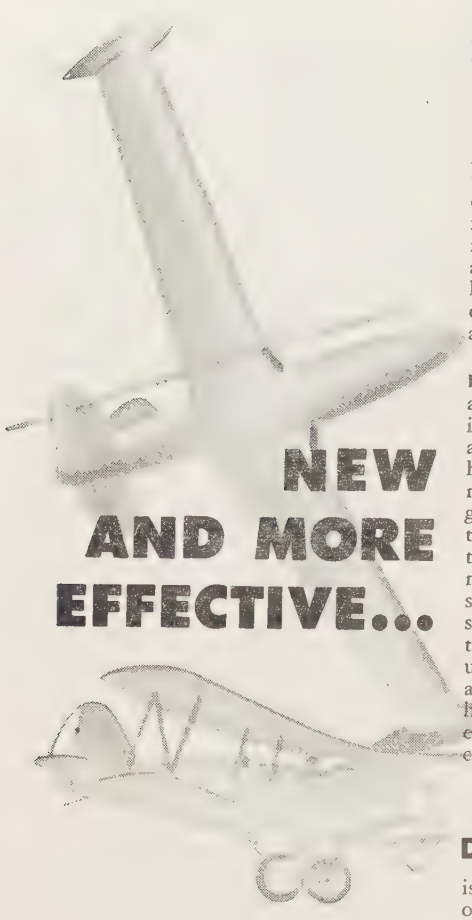

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in the general population succumbs to the disease; only a decade ago, before sulfa drug therapy was in use, the ratio was about one in every two. Where facilities for diagnosis and early treatment are readily available, very low fatality rates are experienced. In the United States Army, for example, the case- fatality rate was about 3 percent in World War II, as compared with well over 30 percent in World War I. Moreover, with the newer therapy, relapses have been virtually eliminated and the frequency of complications has been greatly reduced.

The death rate from cerebrospinal meningitis, particularly in nonepidemic years, is highest in infancy and early childhood. In 1945, for instance, more than one third of the deaths from the disease in the general population of the country occured in the ages under 5. The mortality in most years is higher for males than for females and is higher for colored

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Tuberculosis Death Rate

The 1946 resident tuberculosis death rate for New York State, exclusive of New York City, is expected to be the lowest on record for the upstate area.

According to an announcement by Dr. Robert E. Plunkett, general superintendent of state tuberculosis hospitals, the 1946 rate on the basis of figures for the first ten months of the year will be 30.8 per 100,000 population. The next lowest rate, 31.9, prevailed in 1941 and was followed by an increase in the next

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two years. The 1946 rate, as estimated, is less than half that recorded twenty years ago: in 1926, 3,814 upstate residents succumbed to tuberculosis, a rate of 71, as compared with an estimated 1,929 deaths last year.

Doctor Plunkett attributes the gratifying downswing to four factors: more active participation of the medical profession in combating the disease; greater progress in general antituberculosis work; better knowledge on the part of the public concerning tuberculosis; and improvement in economic conditions.

He warns, however, that the gains made should not lull either official or nonofficial agencies into complacency but rather should spur them to the realization that further inroads against this costly disease can be achieved through more intensive application of modern methods of prevention and treatment.

Decreased Infant Mortality

The U. S. Public Health Service has announced that infant mortality declined further in 1946 from the low rate for 1945. Provisional figures for the first ten months of 1946 indicate a decrease of 3.2 percent from the rate for the same period of 1945. Final figures for 1945 released at this time show that the infant mortality rate of 38.3 deaths under 1 year per 1,000 live births was the lowest ever recorded for the United States. It is 3.8 percent lower than the rate of 39.8 for 1944. Infant deaths numbered 104,684 in 1945 as compared

(*Continued on page 379*)

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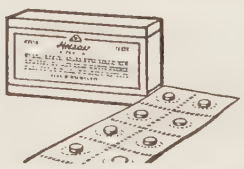

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Subscription Price, $4.00 Foreign, $4.75

Microwave Diathermy

The research laboratories of Raytheon Manufacturing Co., Waltham, Mass., have developed a new tool, which is called the Microtherm. This will make microwave diathermy equipment available to the medical profession for the first time.

Previous investigations in short wave diathermy by physiatrists have for many years indicated the desirability of diathermy work in the microwave region. However, efficient generators of these frequencies were not available.

War-time research produced the pulsed magnetron which made possible precision radar, airplane navigation controls and accurate bombing control. It also resulted in Raytheon's development of the continuous wave type magnetron. Conventional short wave diathermy equipments resemble a small broadcasting station. Whereas the commercial broadcasting stations send out energy which is oscillating at approximately 1000 kilocycles per second, producing little or no heat in the human body, the usual short wave diathermy equipment emits energy at a rate varying 27,000 kilocycles per second.

Raytheon's Microtherm radiates energy varying at 2,450,000 kilocycles per second. This super-high frequency Microtherm radiation has the property of being very quickly absorbed by the human body and produces penetrating heat very rapidly.

Due to its wave length, Microtherm energy can be directed at the patient like a beam of light, thus permitting great precision in the size, shape and depth of the areas to be irradiated. It eliminates cumbersome electrodes that have to be strapped on to the patient. Further, it permits the doctor to continuously view the area being treated.

On Raytheon's petition, the Federal Communications Commission made available on Dec. 26, 1946, the frequency band of 2400-2500 megacycles for industrial and medical applications. With this frequency assignment, and by nature of the magnetron oscillator, usage of this type of diathermy equipment will not give rise to the objectionable radio interference which has been so prevalent with the older type of diathermy.

Several of the country's leading medical clinics, doctors and laboratories have been conducting research with experimental Raytheon Microtherm units for the past months with very interesting results. Their findings will soon be made available to the medical profession through the usual channels.

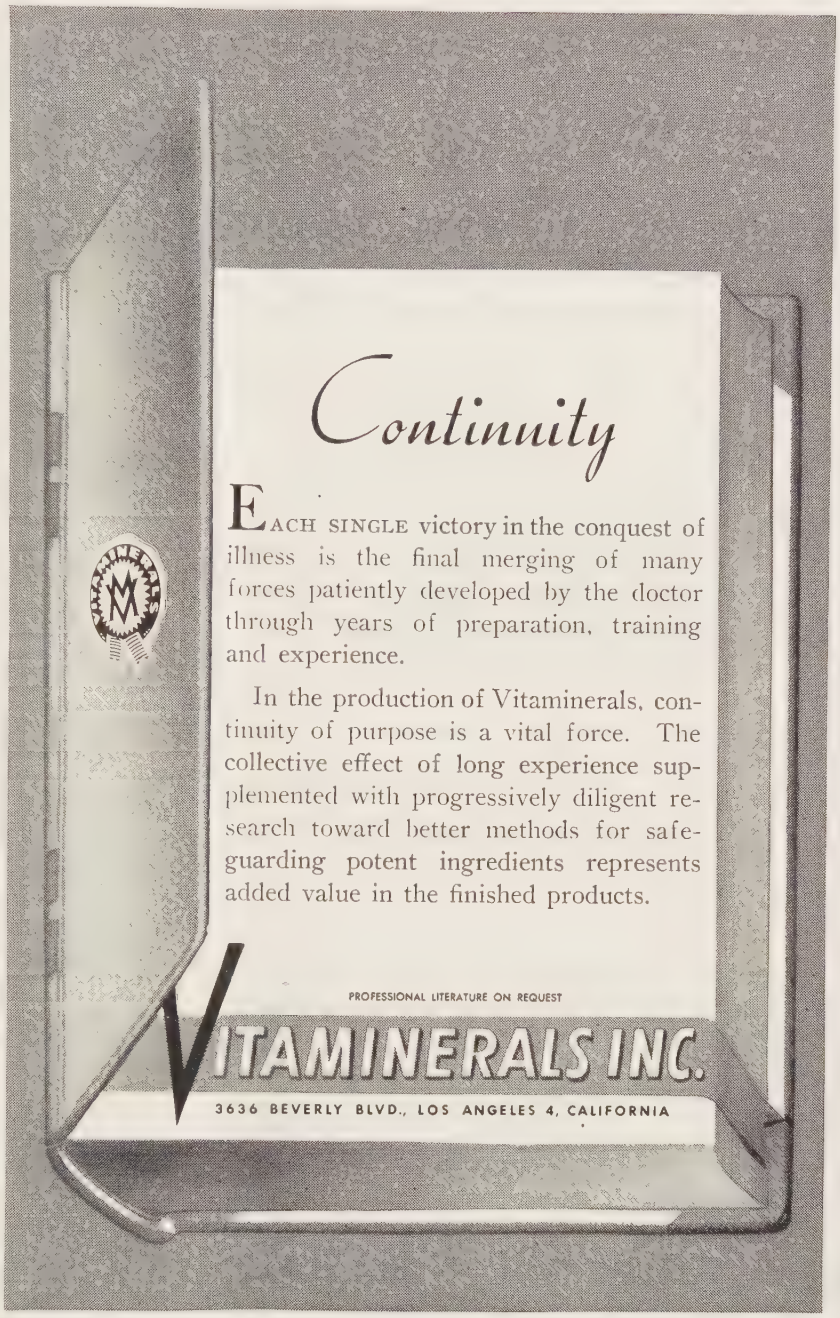
The weight of the Microtherm complete with a 4″ director packed in the unit case is 35 pounds. No additional equipment is needed, and the unit can be plugged into any 115-volt 60-cycle a.c. outlet. The over-all size is 15¼″ x 11½″ x 9½″—suitable for easy carrying. The construction is sturdy—adequate for the wear and tear of portable use, and the design assures reliable operation under the extremes of temperature and humidity normally encountered.

with 1944 when there were 111,127 deaths under 1 year.

The maternal mortality rate of 2.1 per 1,000 live births for 1945 also showed a reduction of nearly 9 percent from the rate of 2.3 for the previous year. The numbers of deaths from puerperal causes on which the maternal mortality rates are based were 5,668 and 6,369, respectively, for 1945 and 1944.

One of the factors contributing to the lower infant and maternal mortality rates is an increase from 1944 to 1945 in the proportion of babies delivered in hospitals. In 1945, 78.8 percent of all births registered in the United States were reported to have occured in hospitals or other institutions. This represents an increase of 3.2 percent from 1944 when 75.6 of recorded births took place in hospitals.

For twenty-eight states the rates for infant mortality for 1945 were below the rate for the United States. In general, low infant mortality rates indicate effective programs of medical and nursing care for mothers and infants, of communicable disease control, and environmental sanitation. Because infant mortality rates are usually lower for white populations than for non-white groups the rates vary from state to state with differences in the racial composition of the population. Incomplete registration of births as well as infant deaths are extrinsic factors which influence infant mortality rates. The effect of the former is to raise the rate above its true value, while incomplete registration of infant deaths has the opposite effect.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Streptomycin

According to a report presented to the American Chemical Society by C. J. Christensen, Dr. F. J. Rudert and Dr. Milton J. Foter of the William S. Merrell Company, Cincinnati, Ohio, streptomycin has assumed the role of policeman in controlling and improving the process by which it is produced.

Successive generations of the mold which produces the drug tend to develop modified forms, which yield less of the streptomycin, the report explained, declaring that this tendency seems to be conquered by the addition of small amounts of the pure drug.

If uncontrolled, the "slacker" strains of mold take up space and consume nourishment from the culture broth to the detriment of their better-producing brothers, it was pointed out in the paper, read before the Society's Division of Biological Chemistry.

The end result of the controlled process was said to be a substantial increase in the total volume of streptomycin produced from a given quantity of culture, the amount being actually greater than that obtained from the fresh parent strain.

Advances in Sulfonamide Therapy

Three new principles in sulfonamide therapy are stressed in the scientific exhibit recently installed at the New York Academy of Medicine, by the Schering Corporation of Bloomfield and Union, New Jersey. Based on recent clinical publications appearing in the medical literature, these factors are used in three different products which materially enhance the effectiveness of sulfonamides against infections.

Damage in the kidney from precipitation of sulfonamide crystals is avoided when combined sulfonamides are used. A saturated aqueous or urinary solution of one sulfonamide can be saturated still further with a different sulfonamide, each drug behaving as though it were present alone and exerting no effect on the solubility of the other. Thus the full sulfonamide effect is obtained with a greatly lessened danger of crystalluria. This greater safety is obtained by using equal parts of sulfadiazine and sulfathiazole (as in Schering's Combisul-TD), with each drug present in exactly half the usual unit dosage.

The effectiveness of a new type of sulfonamide in the prevention and treatment of eye infections is also shown. Sodium sulfacetimide solution 30 percent has been used in the eye for its remarkable penetration into the tissues and therapeutic effect. This product depends upon the high concentration (30 percent) of drug which can be obtained at physiological pH., this sulfonamide being the only drug of the type showing this property. It is non-irritating. High solubility in the urine and rapid excretion into the urine in high concentration are the features of Sulamyd, the sulfonamide effective against Bacillus coli. Sensitivity to this product is rare.

Out of some cold figures, came a story to warm America's heart

NOT LONG AGO, the Secretary of the United States Treasury studied a figure-covered sheet of paper.

The figures revealed a steady, powerful upswing in the sale of U. S. Savings Bonds, and an equally steady decrease in Bond redemptions.

But to the Secretary, they revealed a good deal more than that, and Mr. Snyder spoke his mind:

"After the Victory Loan, sales of U. S. Savings Bonds went down—redemptions went up. And that was only natural and human.

"It was natural and human—but it was also dangerous. For suppose this trend had continued. Suppose that, in this period of reconversion, some 80 million Americans had decided not only to stop saving, but to spend the $40 billion which they had *already* put aside in Series E, F & G Savings Bonds. The picture which *that* conjures up is not a pretty one!

"But the trend did NOT continue.

"Early last fall, the magazines of this country—nearly a thousand of them, acting together—started an advertising campaign on Bonds. This, added to the continuing support of other media and advertisers, gave the American people the facts . . . told them why it was important to buy and hold U. S. Savings Bonds.

"The figures on this sheet tell how the American people responded—and mighty good reading it makes.

"Once more, it has been clearly proved that when you give Americans the facts, you can then ask them for action—and *you'll get it!*"

What do the figures show?

On Mr. Snyder's sheet were some very interesting figures.

They showed that sales of Savings Bonds went from $494 million in last September to $519 million in October and kept climbing steadily until, in January of this year, they reached a new postwar high: **In January, 1947, Americans put nearly a billion dollars in Savings Bonds. And that trend is continuing.**

In the same way, redemptions have been going just as steadily downward. Here, too, the trend continues.

Moreover, there has been, since the first of the year, an increase not only in the volume of Bonds bought through Payroll Savings, but in the number of buyers.

How about you?

The figures show that millions of Americans have realized this fact: there is no safer, surer way on earth to get the things you want than by buying U. S. Savings Bonds regularly.

They are the safest investment in the world. Buy them regularly through the Payroll Plan, or ask your banker about the Bond-a-Month Plan.

Save the easy, automatic way—with U.S. Savings Bonds

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NEW PRODUCTS

Mer-Diazine

The department of research and product development of McNeil Laboratories, Inc., Philadelphia, Pa., has recently announced a new sulfonamide medication— Mer-Diazine.

Mer-Diazine is now being introduced to the medical profession for prescription in pneumonia, mastoiditis, meningitis, non-specific urinary tract infections, cellulitis and streptococcus pharyngitis.

Each fluid ounce of Mer-Diazine contains: sulfamerazine microcrystalling 1.5 Gm. (22 gr.), sulfadiazine microcrystalline 1.5 Gm. (22 gr.).

Presented in palatable "liquoid" form, Mer-Diazine is said to be particularly convenient for children. It is supplied in 4 fluid ounce and pint bottles.

Oral Amino Acid Therapy

Amprodiscs, presenting amino acid therapy in a new palatable form, have been introduced by William H. Rorer, Inc., Philadelphia, pharmaceutical manufacturers. These new discs, as pleasing as candy to the taste are a new form of marketing amino acid preparations. They contain enzymatic protein hydrolysate derived from soya, providing all the essential amino acids, with B Complex vitamins, together with carbohydrates and flavoring agents. Each disc contains 1.5 Gm. protein hydrolysate.

Amprodiscs are indicated in all hypoproteinemic states. Administered at or between meals, they also are convenient for use by ambulatory patients as a palatable dietary supplement. They are available in boxes of 100 discs.

Therapeutic Vitamin Capsules

Schieffelin & Co. have introduced a Therapeutic Vitamin Capsule for use where highly potent multivitamin therapy is indicated; which may be hypovitaminosis, malnutrition, convolence, old age, anorexia, pregnancy or nutritional anemia.

Its active constituents are: Vitamin A—25,000 U. S. P. Units—Fish liver oil concentrates; vitamin D—1,000 U. S. P. Units—irradiated cryosterol; vitamin B_1—5. mg.—Thiamin hydrochloride; vitamin B_2—4. mg.—Riboflavin; vitamin B_6—50 mg.—Ascorbic Acid; niacinamide—25 mg. and vitamin E—5.35 mg.—As mixed Tocopherols with the equivalent in biological activity to 4.0 mg. of Synthetic Alpha Tocopherol.

The average dose of Schieffelin Therapeutic Vitamin Capsules is 1 or 2 capsules daily or as directed by the physician. Where vitamin deficiencies exist it is advisable to supply many more times the daily requirements of the patient than they might get under ordinary circumstances.

It is supplied in bottles of 60 and 100 capsules.

Benzestrol Elixir

The Pharmaceutical & Research Laboratories of Schieffelin & Co. have introduced a new product, Schieffelin Benzestrol Elixir.

Its indications for use are menopause symptoms for suppressing lactation in senile vaginitis and infantile gonorrhea vaginitis, as well as other symptoms of ovarian hypofunction due to estrogenic deficiency.

It is a synthetic estrogenic substance in a pleasant tasting elixir containing 25 percent alcohol. Each fluid ounce contains 15 mg. of Schieffelin Benzestrol or 2 mg. per teaspoonful.

Two or three mg. per day is the usual dosage. The physician will regulate the dosage according to the response of the patient.

It is supplied in pint bottles.

Relief to Stuffy Noses

A new volatile vasoconstrictor, with as yet only a chemical name, is described in the current issue of the *Journal of Pharmacology and Experimental Therapeutics* as promising relief, without "jitters", for cold patients with stuffy noses.

The drug, N-methyl-B-cyclohexylisopropylamine hydrochloride, "possesses marked and prolonged effect on inhalation without undesirable nervous stimulation," according to authors of the paper, Dr. A. M. Lands, director of pharmacological research, Frederick Stearns & Co. Division, Sterling Drug Inc., Detroit, and co-workers.

"Tests on experimental animals indicate that the product is not irritating and does not have any adverse effect upon ciliary motion," Dr. Lands writes. "These results mean that this product should be very satisfactory for frequent and continued use as an inhaler in the control of nasal congestion."

Salt Substitute

Meeting newest medical concepts of salt-free diets, scientists of the Winthrop Chemical Company, Inc., New York, N. Y. have developed a new salt substitute. Called Neocurtasal, the product will be sold in retail drug stores, according to Dr. Theodore G. Klumpp, Winthrop's president.

Most interested in Neocurtasal will be those the medical profession term "hydrated individuals". They are the people whose tissues store abnormal quantities of water. They swell, become fat, unless put on a diet of restricted salt and fluids. Cardiac, renal and other diseases associated with edema call for similar treatment.

The new product contains no sodium. It has a salty flavor, however, is palatable, flows freely, and is used in the same manner as salt. It is being distributed in 2-ounce shakers and 8-ounce bottles.

The product is described as "odorless, white, crystalline, some hygroscopic powder, consisting of potassium chloride, ammonium chloride, potassium formate, calcium formate, magnesium citrate and starch."

Sulfathalidine

'Sulfathalidine' phthalylsulfathiazole, the new nontoxic, smaller dosage intestinal sulfonamide, has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, according to a recent announcement by the Council.

Developed by the Medical Research Division of Sharp & Dohme, Inc., Philadelphia, Pa., 'Sulfathalidine' is an intestinal bacteriostatic agent. Clinically nontoxic, the drug maintains a high concentration in the intestinal tract where its bacteriostatic action markedly alters the bacterial flora. An average of only five percent of the ingested drug is absorbed from the bowel, and a sulfonamide blood level of over 2 mg. per 100 cc. of blood is rarely observed.

'Sulfathalidine' is being widely used in the treatment of ulcerative colitis, regional ileitis and as an adjunct to intestinal surgery.

Rutin Tablets

U. S. Vitamin Corporation, of New York, N. Y., has recently made available to the medical and allied professions Rutin, a nontoxic drug derived from buckwheat. Rutin has shown dramatic possibilities in the treatment of conditions characterized by capillary fragility and hemorrhage. Clinical investigations in such serious conditions as hypertension, diabetic retinus, and hemorrhagic telangiectasia have demonstrated the ability of Rutin to favorably increase capillary resistance, and to prevent or minimize hemorrhagic tendencies and vascular crises.

One group of clinicians normalized capillary resistance in eight out of twelve patients showing excessive capillary fragility following administration of Rutin for several months. They believe the drug to be particularly useful in hemorrhagic dyscrasias and hypertension with abnormal capillary permeability. Other investigators employed Rutin successfully not only in overcoming increased capillary fragility in a majority of hypertension patients, but also achieved good prophylactic results against bleeding among high blood pressure patients receiving thiocyanate therapy concommitantly. In highly resistant hemorrhagic telangiectasia, Rutin arrested bleeding within twenty-four hours after several transfusions had failed.

Rutin is so extracted and purified as to be of uniform therapeutic potency, and is supplied as tablets, 20 mg. each, bottles of 100. The profession is invited to send for literature—U. S. Vitamin Corp., 250 East 43rd Street, New York 17, N. Y.

New Device to Inject Penicillin Formula

A new device that aids physicians to inject penicillin in the beeswax and oil suspension which is considered a great advance in syphilis therapy, was recently announced by Dr. Theodore G. Klumpp, president, Winthrop Chemical Company, Inc., New York, N. Y.

Called a Punctule, it was developed by Martin Lasersohn, M.D., a Winthrop vice-president. It is made of glass and neoprene, and the unit includes a double-end 21-gauge needle. To administer the injectible medicament, the Punctule is placed into the barrel of an ordinary hypodermic syringe, and injection is accomplished by pushing the thumb-rest of the Punctule.

As now being offered by Winthrop, the Punctule will contain a dosage of 300,000 units of penicillin in beeswax and oil called the Romansky formula. In addition to its use in the treatment of venereal disease, the Romansky formula penicillin is indicated for blood poisoning, pneumonia, scarlet fever, tonsilitis, and other types of infections. The dosage selected is good for from eighteen to twenty-four hours as compared to other penicillin solutions that require injections every two or three hours.

When the physician is dealing with the Romansky penicillin or with other opaque parenteral solutions, Dr. Klumpp explained that reliable aspiration is assured by the Punctule despite the opacity of the fluid. The solution-containing Punctule is not placed into the syringe until after the hypodermic needle is inserted and aspiration is made to be absolutely certain that the needle has not penetrated a blood vessel.

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Pro-Aminate Modified

The Pharmaceutical & Research Laboratories of Schieffelin & Co. have introduced a new product, Pro-Aminate Modified, for oral administration in cases of known or suspected hypoproteinemia. Hypoproteinemia is associated with the following irregularities: a. Inadequate protein intake b. Faulty digestion from any causes c. Excessive loss of protein due to diarrhea, dysentary, hemmorrhage, cirrhosis of the liver, any infection—increased metabolism due to pregnancy, fibrile conditions, and thyrotoxicosis d. Impairment of protein regenerating mechanisms.

It is a protein hydrolysate containing essential amino acids, peptides and natural B complex factors derived from nutritional yeast, cosein and vegetables with added carbohydrates and vegetable concentrates. Vegetable protein 6 percent; hydrolysate protein 25.50 percent; total protein 31.50 percent and total carbohydrates 40.20 percent. It is flavored with vegetable extracts 85 calories per ounce.

The dosage is two to six tablespoonfuls three times daily in sufficient warm or cold milk or water to suit the taste, or as recommended by the physician. (1 level tablespoonful weighs 1/3 oz.) This a dietary supplement and dosage will depend upon dietary protein and carbohydrate intake and the ability of the patient to digest and assimilate protein foods.

Pro-Aminate Modified is available in 11¼ oz. jars (319 Gms.)

Stereo Viewer for X Ray Films

To meet the growing use of stereoscopic pairs in x ray diagnosis, the Fairchild Camera and Instrument Corporation, Jamaica, N. Y., has produced the New Fluoro-Record Film Viewer for scanning stereo pairs photographed on 70-mm. roll or cut film. As an accessory to Fairchild's line of 70-mm. x ray cameras, the viewer is designed for tuberculosis associations, hospitals and clinics requiring sharp, three-dimensional viewing of x ray negatives made either in mass chest surveys or in routine examinations.

Simple design features of the Fluoro-Record viewer include a rheostat for light intensity control, permitting the radiologist to regulate light according to density of the negative, an optical system requiring no adjustments, two standard incandescent lamps as a light source, and a tilt adjustment for convenient viewing at comfortable eye level.

The instrument accommodates stereo pairs on 70-mm. roll film, or on standard 2-3/4″ x 6-1/2″ cut film. For reading stereo pairs on roll film, the radiologist moves the film strip in either direction across a lighted ground glass screen by hand knobs on both sides of the viewer. For pairs on cut film, he simply places each pair in the groove in front of the ground glass screen.

Overall dimensions of the Fairchild Fluoro-Record stereo viewer are 15 inch width, 16 inch length, 11 to 15 inch height through adjustable tilt.

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